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CP-3211 and CP-4221 HD PTZ Dome Camera User and Installation Guide

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Rev H May 2014

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Revision History

Version	Date	Author	Comments
V0.2	Oct. 17, 2012	Tal Inbar	First release
A	August 2013	Jonathan Herman	<p>Added CP-3211-181-HPoE and CP-4221-201-HPoE models.</p> <p>Added support for DNA, SNMP v3, Baseline and High H.264 profiles.</p> <p>Added System > Schedule page for use by the Application, Network Failure Detection and Motion Detection options.</p> <p>Added Digital Zoom selection option in PTZ tab.</p> <p>Formatting and editing corrections.</p>
B-D	October 2013- January 2014	Alan Singer	Formatting and editing corrections.
E	February 2014	Alan Singer	<p>Added Revision History. Added CP-4221-301 models to Technical Specifications table.</p> <p>Updated look and feel.</p>
F-G	March 2014	Alan Singer	<p>Updated Main Screen image in sections 5.4, 6.3, and 6.6.</p> <p>Updated Technical Specifications table.</p> <p>Corrected MPEG +H.264 and H.264 + H.264 video resolution settings in sections 7.4.1.1 and 7.4.1.2.</p> <p>Added CP-4221-301 to the following sections:</p> <ul style="list-style-type: none"> • 7.3.13 (System > Software version) • 7.4.3 (Streaming > Video OCX Protocol) • 7.5.8 (PTZ > Camera Exposure) • 7.5.9 (PTZ > Camera-WB) • 7.5.10 (PTZ > Camera-Misc1) • 7.5.11 (PTZ > Camera-Misc2)
H	May 2014	Alan Singer	<p>Changed “sensors” to “shutters” in “TV System” paragraph in section 7.5.11.2.</p>

1 Document Information

Document Scope and Purpose

The purpose of this document is to provide instructions and installation procedures for physically connecting the Quasar CP-3211 and CP-4221 HD PTZ cameras. After completing the physical installation, additional setup and configurations may be required before video analysis and detection can commence.

**Note:**

This document is intended for use by technical users who have a basic understanding of CCTV camera/video equipment and LAN/WAN network connections.

**Warning:**

Installation must follow safety, standards, and electrical codes as well as the laws that apply where the units are being installed.

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Document Conventions

WARNING and **CAUTION** notes are distributed throughout this document, whenever applicable, to alert you of potentially hazardous situations. These may be hazards associated with a task or a procedure you are carrying out or are about to carry out.

The following document conventions are used throughout this manual:



A **Warning** is a precautionary message that indicates a procedure or condition where there are potential hazards of personal injury or death.



A **Caution** is a precautionary message that indicates a procedure or condition where there are potential hazards of permanent damage to the equipment and or loss of data.



A **Note** is useful information to prevent problems, help with successful installation, or to provide additional understanding of the products and installation.



A **Tip** is information and best practices that are useful or provide some benefit for installation and use of DVTEL products.

General Cautions and Warnings

This section contains information that indicates a procedure or condition where there are potential hazards. These may be hazards associated with a task or procedure a user is carrying out or about to carry out. WARNINGS and CAUTIONS are distributed throughout this document, whenever applicable, to alert the user of potentially hazardous situations.

SAVE ALL SAFETY AND OPERATING INSTRUCTIONS FOR FUTURE USE.

Although the unit is designed and manufactured in compliance with all applicable safety standards, certain hazards are present during the installation of this equipment.

To help ensure safety and to help reduce risk of injury or damage, observe the following:

**Warning:**

1. The camera covers is an essential part of the product. Do not open or remove it.
2. Never operate the camera without the cover in place. Operating the camera without the cover poses a risk of fire and shock hazards.
3. Do not disassemble the camera or remove screws. There are no user serviceable parts inside the unit.
4. Only qualified trained personnel should service and repair this equipment.
5. Observe local codes and laws and ensure that installation and operation are in accordance with fire, security and safety standards.

**Caution:**

To avoid damage from overheating or unit failure, assure that there is sufficient temperature regulation to support the unit's requirements (cooling/heating). Operating temperature should be kept within the specified temperature range for the product.

Electrical Safety Notice and Warnings



Warning:

1. Read the installation instructions before you connect the unit to a power source.
2. Electrical safety should always be observed. All electrical connections must be performed by a certified electrician.
3. Use the supplied power supply and protect against static electricity, ground faults and power surges.
4. If the unit uses a three-wire power cord, make sure that the product is properly grounded when in use. NEVER remove or otherwise attempt to bypass the ground pin of the power cord. Do not operate the unit in the absence of a suitably installed ground conductor.
5. If you use an extension cord with this system, make sure that the total ampere rating on the products plugged into the extension cord does not exceed the extension cord ampere rating.
6. To avoid possible shock hazards or damaging the unit, assure that the positive and negative of the power leads are properly connected to the terminal block connector before plugging it into the unit or turning on the power source.
7. In the following situations, the electric power should be turned off immediately and appropriate repairs, replacements or remedies should be taken if:
 - The power line or plug (if used) is damaged, frayed or shows heavy wear.
 - The unit has been physically crushed or deformed.
 - The unit has been exposed to water.
 - The unit has been exposed to, or shows signs of damage from, fire, intense heat, heavy smoke, fumes, or vapors.
 - Electrical connections of the unit become abnormally hot or generate smoke.
 - The unit has been dropped, damaged or shows signs of loose internal parts.
 - The unit does not operate properly.

Minimizing EMI and RFI

When wires run for a significant distance in an electromagnetic field, electromagnetic interference (EMI) can occur. Strong EMI (e.g. lightning or radio transmitters) can destroy the units and can pose an electrical hazard by conducting power through lines and into the system. Poor quality or worn wiring can result in radio frequency interference (RFI). To minimize the effects of EMI and RFI, consult your reseller.

Site Preparation

There are several requirements that should be properly addressed prior to installation at the site. The following specifications are requirements for proper installation and operation of the unit:

- **Ambient Environment Conditions:** Avoid positioning the unit near heaters or heating system outputs. Avoid exposure to direct sunlight. Use proper maintenance to ensure that the unit is free from dust, dirt, smoke, particles, chemicals, smoke, water or water condensation, and exposure to EMI.
- **Accessibility:** The location used should allow easy access to unit connections and cables.
- **Safety:** Cables and electrical cords should be routed in a manner that prevents safety hazards, such as from tripping, wire fraying, overheating, etc. Ensure that nothing rests on the unit's cables or power cords.
- **Ample Air Circulation:** Leave enough space around the unit to allow free air circulation.
- **Cabling Considerations:** Units should be placed in locations that are optimal for the type of video cabling used between the unit and the cameras and external devices. Using a cable longer than the manufacturer's specifications for optimal video signal may result in degradation of color and video parameters.
- **Physical Security:** The unit provides threat detection for physical security systems. In order to ensure that the unit cannot be disabled or tampered with, the system should be installed with security measures regarding physical access by trusted and un-trusted parties.
- **Network Security:** The unit transmits over IP to security personnel for video surveillance. Proper network security measures should be in place to assure networks remain operating and free from malicious interference. The unit is intended for installation on the backbone of a trusted network.
- **Electrostatic Safeguards:** The unit as well as other equipment connected to it (relay outputs, alarm inputs, racks, carpeting, etc.) shall be properly grounded to prevent electrostatic discharge.

The physical installation of the unit is the first phase of making the unit operational in a security plan. The goal is to physically place the unit, connect it to other devices in the system, and to establish network connectivity.

2 Overview

The Quasar CP-3211 and CP-4221 series HD PTZ camera provides real-time video with high-definition quality at HD 720p or Full HD 1080p, respectively. With 18x, 20x, or 30x optical zoom and high-speed pan-tilt-zoom functionality, the Quasar HD PTZ camera can quickly cover a wide monitoring area with a high level of detail. Multiple streams can be run simultaneously, providing an ideal solution when differing levels of image quality are required. The camera can increase frame rate and level of detail when events are triggered. In addition, DVTEL's Scene Adaptive Algorithms provide the highest image quality with the lowest bandwidth and storage requirements.

The Quasar CP-3211 HD PTZ series includes the following models:

- CP-3211-180 HD 720p indoor camera with 18x optical zoom
- CP-3211-181 HD 720p outdoor camera with 18x optical zoom
- CP-3211-181-HPoE, HD 720p, 60W, Ultra PoE with 18x optical zoom

The Quasar CP-4221 HD PTZ series includes the following models:

- CP-4221-200 Full HD 1080p indoor camera with 20x optical zoom
- CP-4221-201 Full HD 1080p outdoor camera with 20x optical zoom
- CP-4221-201-HPoE, Full HD 1080p, 60W, Ultra PoE with 20x optical zoom
- CP-4221-301-HPoE, Full HD 1080p, 60W, Ultra PoE with 30x optical zoom



Caution:

If you are using DVTEL Latitude, we recommend that you configure the camera's settings via the AdminCenter. This is because the camera's web-based interface might be overwritten by Latitude settings. Refer to the Latitude online help for information regarding configuring camera settings.

2.1 Features

Following are key features of the CP-3211 and CP-4221 cameras:

- | | | |
|---|--|--|
| • H.264 and MJPEG compression | • HTTP streaming MJPEG | • Progressive scan CMOS sensor |
| • Edge motion detection | • Motion detection with region of interest masking | • Historical motion-detection levels detected /recorded at frame levels. |
| • Detection event driven alarms | • Alarm input driven events | • Relay output actions on alarm |
| • Built-in web application/web server | • FTP upload (up to two locations) | • Upload alarm images to FTP |
| • Dual HTTP notification server support (up to two servers) | • Send images on alarm to e-mail | • E-mail SMTP alarm notification (up to two e-mails) |
| • MicroSD recording support | • Record snapshots to SD card on alarm | • Sequential snapshot numbering |
| • SNMP v1/v2/v3 and SNMP traps | • Security IP restricted access list | • UPnP support |
| • True day/night (ICR) | • WDR and ATW | • Privacy masks |
| • 3DNR image noise reduction | • ONVIF support | • RTSP support |
| • Multiple users | • Group permissions | • Supports PoE/24VAC |
| • Tampering detection and notification | • Two encoder streams available | • Per-user permissions |
| • Vandal-proof IP66 enclosure | • Low-lux mode | • Backlight compensation |



Note:
MJPEG is not supported by Latitude

2.2 Package Contents

Before proceeding, check that the box contains the items listed here. If any item is missing or has defects, do not install or operate the product and contact your dealer for assistance.

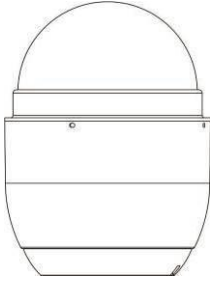
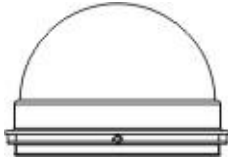
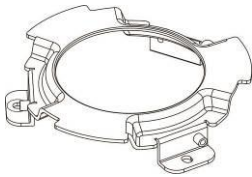
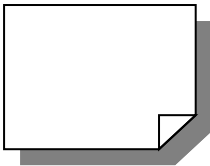

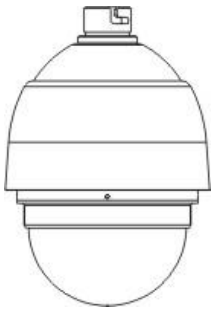
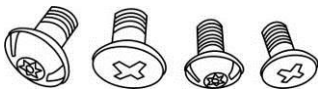
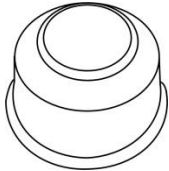
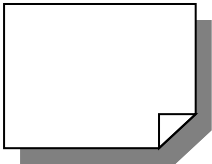

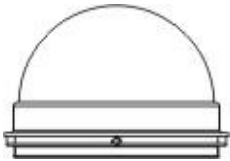
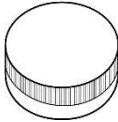
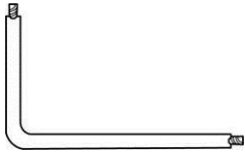
 Camera Body	 Optical Cover	 Hard Ceiling Mount M4 Screw (x4) Plastic Anchors (x4)
 Quick Start Guide	 CD: (Bundled software and documentation)	

Figure 1: Indoor Package Contents



Note:
The self-tapping screws are mainly for softer substrate/material installation such as wood. For other installation materials such as cement ceilings, it is necessary to pre-drill and use plastic anchors before fastening the supplied self-tapping screws into the wall.

 <p>Camera Body with Outdoor Mount Kit</p>	 <p>M3 Standard Screw (×1) M3 Security Screw (×1)* M5 Standard Screw (×1) M5 Security Screw (×1)*</p>	
 <p>Waterproof Gasket</p>	 <p>Quick Start Guide</p>	 <p>CD: (Bundled software and documentation)</p>
 <p>Optical Cover</p>	 <p>Lubricant</p>	 <p>Security Torx*</p>

*Optional: For vandal-proof cover only.

Figure 2: Outdoor Package Contents

3 Introduction to the Quasar HD PTZ Camera

This chapter provides the camera's dimensions for reference before installation. The definition of each connector on the camera's back plate is also specified.

Related Links

- [Quasar HD PTZ Indoor Camera Dimensions](#)
- [Quasar HD PTZ Outdoor Camera Dimensions](#)
- [Camera Connectors](#)
- [Technical Specifications](#)

3.1 Quasar HD PTZ Indoor Camera Dimensions

The Quasar HD PTZ indoor camera's dimensions are shown below.

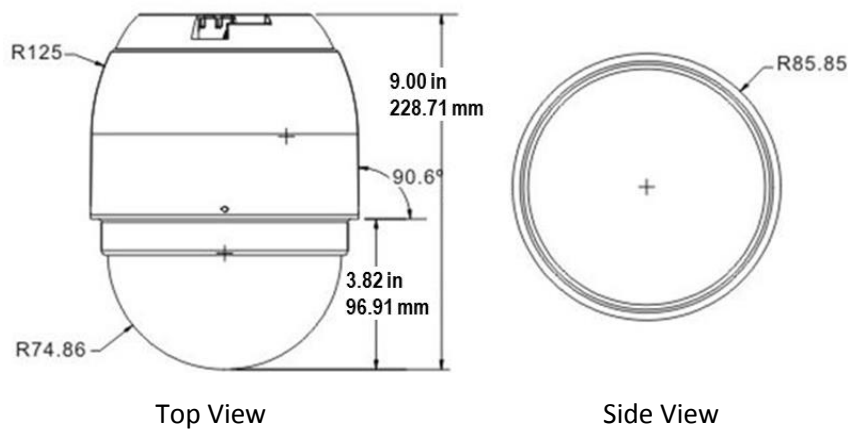


Figure 3: Indoor Camera Dimensions

3.2 Quasar HD PTZ Outdoor Camera Dimensions

The Quasar HD PTZ outdoor camera's dimensions are shown below.

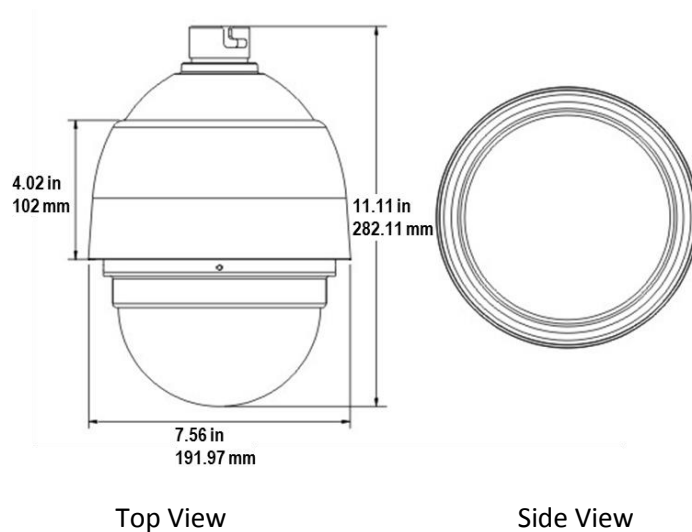


Figure 4: Outdoor Camera Dimensions

3.3 Camera Connectors

Following are an illustration and explanation of the connectors located on the Quasar HD PTZ camera's back plate.

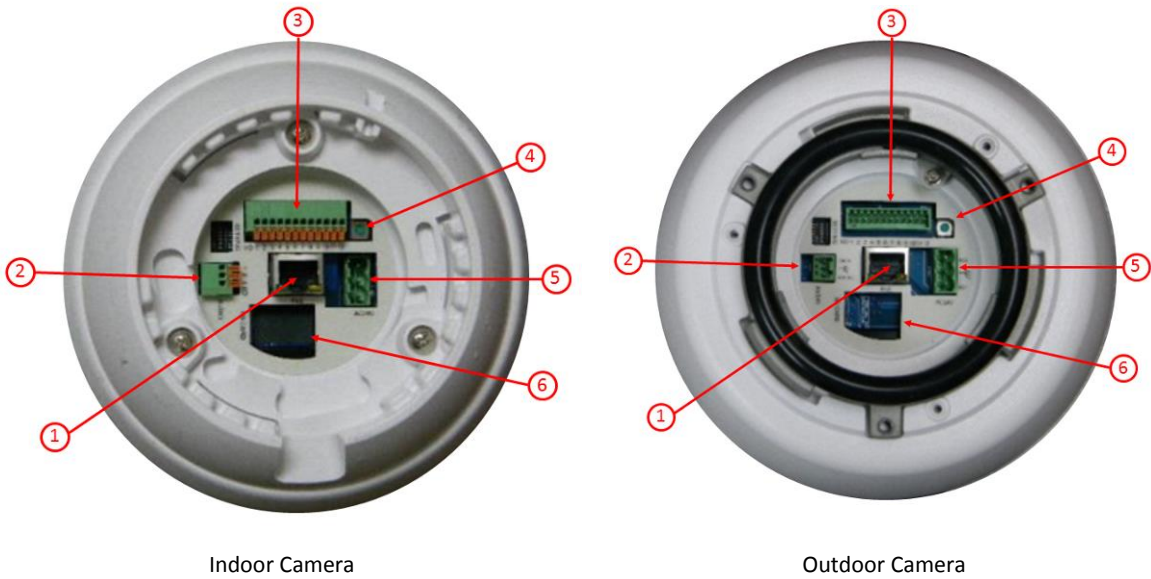


Figure 5: Indoor/Outdoor Connector Locations

Table 1: Indoor/Outdoor Camera Connectors

Callout	Description
1	RJ45 connector
2	Audio I/O connector
3	Alarm I/O connector
4	Factory default reset button
5	Power connector terminal block
6	microSD card slot



Note:

Do not change the Quasar HD PTZ camera's communication switch from the original factory settings.

Table 2: Power Connector Pin Designations


Power Connector	Pin	Definition
	1	AC 24-
	2	FG
	3	AC 24+

Table 3: Audio Connector Pin Designations



Audio Connector	Pin	Definition
	1	LINE_OUT
	2	GND
	3	LINE_IN

Table 4: Alarm I/O Pin Designations

Alarm Connector	Pin	Definition
	1	ALARM_OUT_NO_1
	2	ALARM_OUT_NC_1
	3	ALARM_OUT_COM_1
	4	GND
	5	ALARM_OUT_NO_2
	6	ALARM_OUT_NC_2
	7	ALARM_OUT_COM_2
	8	GND
	9	ALARM_IN_4
	10	ALARM_IN_3
	11	ALARM_IN_2
	12	ALARM_IN_1

4 System Requirements

To access the camera via a web browser, ensure that your PC has the proper network connection and meets system requirements as described below.

Table 5: System Requirements

Item	Minimum System Requirement
Personal Computer	Intel® Pentium® IV, 3 GHz or Intel® Core™2 Duo, 2.0 GHz 2GB RAM or more
Operating System	Windows, Windows XP, Windows 7
Browser	Microsoft Internet Explorer 7, 8 or 9 for all units IE 7, 8, 9, and 10 for CP-4221-301 only
Network Card	10Base-T (10 Mbps) or 100Base-TX (100 Mbps) operation
Viewer	ActiveX control plug-in for Microsoft IE

5 Installation

Follow the instructions below for indoor and outdoor installation of the Quasar PTZ series of cameras.

5.1 Indoor Installation

This section applies to the following cameras:

- CP-3211-180
- CP-4221-200

Read the instructions provided in this chapter thoroughly before installing the camera. Following are additional considerations for indoor installation:

- There must be a fuse or circuit breaker at the starting point of the electrical wiring infrastructure.
- For indoor installations, such as industrial applications, the camera must be protected from hostile external elements (e.g. corrosive environment, metallic dust, extreme temperatures, soot, moisture, over spray, etc.)
- Do not place the camera on or near radiators and heat sources.
- All electrical work must be performed in accordance with local regulatory requirements.

5.2 Outdoor Installation

This section applies to the following cameras:

- CP-3211-181
- CP-3211-181-HPoE
- CP-4221-201
- CP-4221-201-HPoE
- CP-4221-301-HPOE

Read the instructions provided in this chapter thoroughly before installing the camera. Following are additional considerations for outdoor installation:

- For outside wiring installation, always use weatherproof equipment, such as boxes, receptacles, connectors, etc.
- For electrical wiring, use the properly rated sheathed cables for conditions to which the cable will be exposed (for example, moisture, heat, UV, physical requirements, etc.).
- Plan ahead to determine where to install infrastructure weatherproof equipment. Whenever possible, ground components to an outdoor ground.
- Use best security practices to design and maintain secured camera access, communications infrastructure, tamper-proof outdoor boxes, etc.
- All electrical work must be performed in accordance with local regulatory requirements.

Related Links

- [Power and Ethernet Cable Connection](#)
- [Initial Camera Configuration](#)
- [Preparing the Camera for Mounting](#)
- [Mounting Instructions](#)

5.3 Power and Ethernet Cable Connection

Power Connection

Make sure the camera's power cable is properly connected. Refer to Tables 1 to 4: CP Series Camera Connector Designations. If using Power over Ethernet (PoE Plus), make sure that Power Sourcing Equipment (PSE) is available on the connected network. All electrical work must be performed in accordance with local regulatory requirements.

Ethernet Cable Connection

Category 5 Ethernet cable is recommended for network connection. For best transmission quality, cable length should not exceed 100 meters (328 feet). Connect one end of the Ethernet cable to the RJ45 port on the Quasar HD PTZ camera and the other end to the network switch or PC.

See Figure 5: Indoor/Outdoor Connector Locations.




Note:

You can use an Ethernet crossover cable to connect the camera directly to a PC.

Check the status of the link indicator and activity indicator LEDs. If the LEDs are unlit, check the LAN connection.

Table 6: RJ45 LED Description

RJ-45 Connector	LED	Description
	Green	Link light – Indicates a stable network connection
	Yellow	Activity light – flashes to indicate network activity

5.4 Initial Camera Configuration

To perform the initial camera configuration:

1. Unpack the camera. Rotate and remove the protective cover.
2. Remove the PE cloth sheet and lens cap. Attach the dome cover to the body.
3. On the camera back plate, plug the Cat 5 cable into the camera's Ethernet port. If the network does not use IEEE 802.3at PoE Plus, plug a properly rated 24VAC power supply into the cameras' power connector terminal block.



Caution:

Pay attention to the polarity noted in [Camera Connectors](#).

4. Do one of the following:

- Run the dna.exe file from the included CD.



Note:

DNA is an enhanced alternative software to Device Search. Either of these programs may be used. Both are supplied on the included CD.

- Click the icon.
- Select the unit requiring IP assignment.

Device type	Model name	Status	Login Status	IP address	Name	Firmware version	MAC address	Port	Up time
Camera	EA-0201-0	Online	Authenticated	10.70.20.137	Miss Maple	2.0.1.204	00:13:96:00:AS5E2	5517	130 days 14:42:...
Camera	tk101	Online	Authenticated	10.70.20.105	Wilson	2.1.1.141	00:13:96:00:AS5C2	5517	71 days 15:39:09
Camera	tk101	Online	Authenticated	10.70.20.120	Krusty	2.1.1.141	00:13:96:00:AS5D3	5517	71 days 10:23:27
Camera	tk101	Online	Authenticated	10.70.20.103	Conan	2.1.1.141	00:13:96:00:AS5C8	5517	70 days 06:09:09
Camera	tk101	Online	Authenticated	10.70.20.116	New Haven	2.1.1.141	00:18:D8:40:03:49	5517	70 days 22:46:58
Camera	tk101	Online	Authenticated	10.70.20.102	Ed	2.1.1.141	00:13:96:00:AS5E3	5517	70 days 20:00:11
Camera	tk101	Online	Authenticated	10.70.20.121	Dexter	2.1.1.141	00:13:96:00:0F:A6	5517	70 days 13:39:34
Camera	tk101	Online	Authenticated	10.70.20.125	Carter	2.1.1.141	00:13:96:00:0F:A6	5517	70 days 09:28:07
Camera	tk101	Online	Authenticated	10.70.20.104	Ally McBeal	2.1.1.141	00:13:96:00:AS5A7	5517	70 days 09:12:23
Camera	tk101	Online	Authenticated	10.70.20.143	Rose Tyler	2.1.1.141	00:13:96:00:AS5A3	5517	70 days 07:16:42
Camera	tk101	Online	Authenticated	10.70.20.124	Crabble	2.1.1.141	00:13:96:40:0A:41	5517	69 days 14:24:40
Camera	sc101	Online	Authenticated	10.70.20.135	Shoggoth	2.1.1.141	00:13:96:40:0F:90	5517	69 days 05:20:44
Camera	tk101	Online	Authenticated	10.70.20.126	Winston	2.1.1.141	00:18:D8:40:04:4F	5517	67 days 20:28:21
Camera	tk101	Online	Authenticated	10.70.20.130	Van Gogh	2.1.1.141	00:18:D8:40:04:64	5517	67 days 12:28:54
Camera	tk101	Online	Authenticated	10.70.20.141	Los Angeles	2.1.1.141	00:18:D8:40:03:47	5517	66 days 17:31:42
Camera	sc101	Online	Authenticated	10.70.20.122	Palantir	2.1.1.141	00:13:96:40:A2:23	5517	65 days 17:30:18
Camera	tk101	Online	Authenticated	10.70.20.117	Astrov	2.1.1.141	00:18:D8:40:03:41	5517	64 days 11:53:48
Camera	sc101	Online	Authenticated	10.70.20.106	Yves	2.1.1.141	00:13:96:00:A7:AC	5517	40 days 17:46:25
Camera	EA-0201-0	Online	Authenticated	10.70.20.163	EA-0201-0	Version 2.1.8.3080	00:18:D8:01:04:63	5517	34 days 00:17:20
Camera	EA-0201-0	Online	Authenticated	10.70.20.161	Settem...	Version 2.1.8.4044	00:18:D8:01:04:6D	5517	34 days 00:17:12

Figure 6: Discovered IP Devices

- Right-click on the mouse and select the assigned IP or press the **Assign IP** button to open the DNA **Assign IP** screen
- In the dialog box that is displayed, enter values for the **IP Address**, **Gateway** and **Netmask**.
- Click **Update** and wait for OK status to be displayed.

DNA - Assign IP (1 Device Selected)

☐ Use DHCP

First IP Address : 10 . 70 . 20 . 6

Mask : 255 . 255 . 255 . 0

Gateway : 10 . 70 . 20 . 1

Status	Name	Current IP	Previous IP
	MegaPixelCamera	10.70.20.6	10.70.20.10

Update **Close**

Figure 7: Assign IP Dialog Box

- From the Latitude Sidebar, run the Unified Configurator by selecting **Applications > Device Configuration Tool**. Then click **DVTEL HD Series** on the **Unified Configurator** screen.

5. Disconnect the Ethernet cable. The camera is ready for deployment in a site installation (mounting).



Note:

- The camera can be connected to a PC for bench installation via an Ethernet cross-cable.
- The camera default IP Address is automatically set by the DHCP server. If using Latitude, the Address must be set manually.

**Tip:**

A camera setup adapter, such as Veracity Pinpoint, can be used to connect a laptop directly to the camera when using PoE.

5.5 Preparing the Camera for Mounting

If you have not already done so, rotate and remove the camera's protective cover. Remove the PE cloth sheet and lens cap and attach the dome cover to the body.

5.6 Mounting Instructions

The following are four general methods of mounting the Quasar HD PTZ series cameras.

- [Ceiling Mount](#)
- [Wall Mount](#)
- [Corner Mount](#)
- [Pole Mount](#)

**Note:**

Within each general method, there may be several mounting types available as optional packages. See [Camera and Mounting Accessories](#).

5.6.1 Ceiling Mount

Ceiling mount methods include:

- [Hard Ceiling Mounting](#) (indoor cameras only)
- [Recessed Mounting](#) (indoor cameras only)
- [Indoor Pendant Mounting Kit](#) (indoor cameras only)
- [Straight Tube Mounting](#) (requires CD-HD-CAPX for indoor installation)
- [Swan Tube Mounting](#)

5.6.1.1 Hard Ceiling Mounting (indoor cameras only)

Hard ceiling mounting is the standard installation for a Quasar HD PTZ indoor camera and is supplied in the standard indoor camera package.

Hard ceiling mount package contents:

- Hard Ceiling Mount x1
- M4 self-tapping screw x4
- Plastic anchors x4
- Fixing plate x1
- M3 standard screw x4 (3 for fixing plate, 1 for Dome Cover*)

(*) For the Vandal Proof Camera Dome Cover, a security screw is supplied instead of the standard screw.

Tools required:

- Drill
- Phillips and flat-head screwdrivers

To install the hard ceiling mount:

1. If you have not already done so, remove the dome cover.
2. Use the hard ceiling mount as a template to mark the mounting surface where the three screw holes will need to be drilled.
3. In the marked locations, drill each hole using a drill-bit of a slightly smaller diameter than the supplied screw anchors and fully insert the anchors into drilled holes. You may need to tap them flush with the wall using a finishing hammer.
4. Attach the Hard Ceiling Mount using three supplied self-tapping screws.



5. Thread cables through the center hole of the mount and connect them to the camera back plate.
6. Hide the cables inside the ceiling. Alternatively, thread the cables through the gap at the side of the fixing plate as shown in the figure below.



7. Attach the camera to the hard ceiling mount by turning the camera counter-clockwise.



8. Tighten the screw at the side of the camera's fixing plate.



9. Replace the camera's dome cover and secure using the two standard screws supplied.
10. Screw in the supplied standard screw (security screw for vandal-proof dome) on the dome cover. See figure below.



5.6.1.2 Recessed Mounting (Indoor cameras only)

Items needed:

- CP-HD-RCSD-0 Recessed Mount package (see A.8 Mounting Accessories)

Recessed mounting package contents:

- Recessed Mount
- M3x6 screw x2
- Ceiling sticker x1
- Trim Ring x1

Tools required:

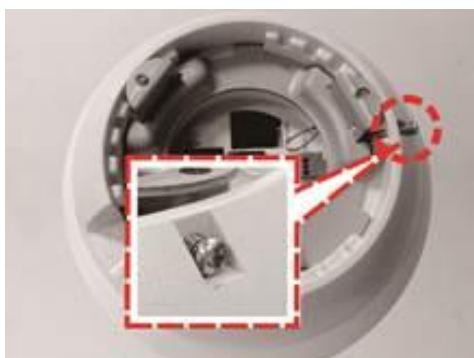
- Tool for cutting a circle on the ceiling
- Phillips and flat-head screw drivers

To install the recessed mount:

1. Attach the camera to the recessed bottom mount by turning the camera counter-clockwise.

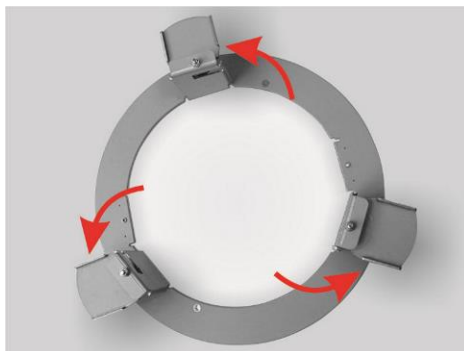
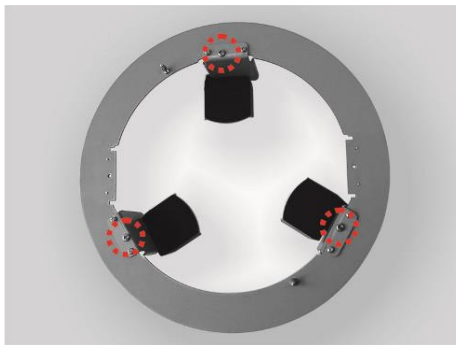


2. Tighten the screw at the side of the camera's fixing plate to secure it to the recessed bottom mount.





3. Loosen the wings from the recessed bracket by turning each wing's center screw counter-clockwise (as indicated in the first figure below), until the wings are able to swing outward (as shown in the second figure below).

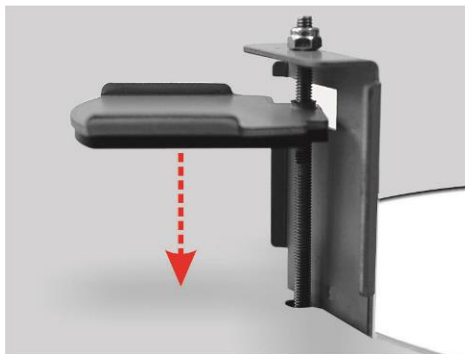
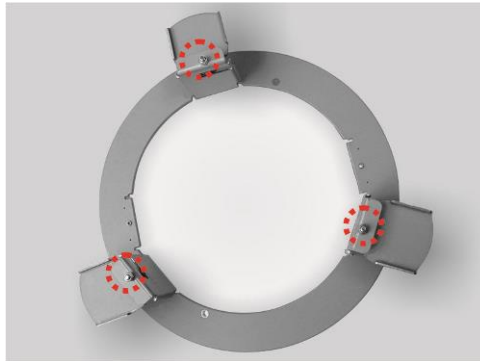


4. Place the ceiling sticker on the ceiling, and cut the circle part out of the ceiling.



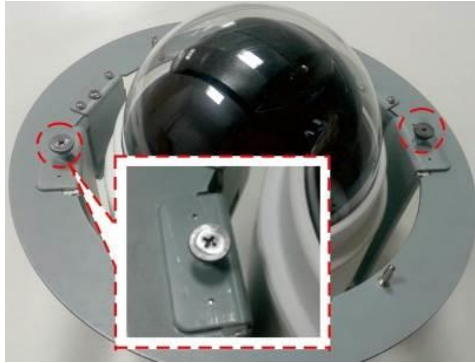
5. With the wings facing inward, place the winged recessed bracket into the ceiling opening.
6. Insert a hand into the center of the recessed bracket and rotate the wings to face outward.

7. Tighten the three screws clockwise until the wings are completely flush with the ceiling surface.



8. Thread cables through the center hole of the recessed mount and connect them to the camera.
9. Place the installed recessed bottom mount with camera into the ceiling opening.
10. Tighten the screws to fix the recessed bottom mount onto the recessed bracket.





11. Attach the trim ring to the recessed bracket.



5.6.1.3 Indoor Pendant Mount Kit (Indoor cameras only)

The CP-HD-CAPX-0 indoor pendant mount kit can be used with the following mounting accessories:

- [Straight Tube Mounting](#)
- [Swan Tube Mounting](#)
- [Standard Wall Mount](#)
- [Compact Wall Mount](#)

Items needed:

- CP-HD-CAPX-0 indoor pendant mount kit (see [Camera and Mounting Accessories](#))

Tools required:

- Phillips and flat-head screw drivers

To attach the camera to the indoor pendant mount kit:

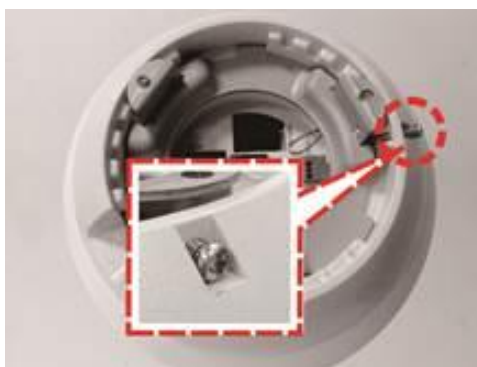
1. Thread the cables through the center hole of the indoor pendant mount kit and connect them to the camera back plate.



2. Attach the camera to the indoor pendant mount kit by turning the camera counter-clockwise.



3. Tighten the screw on the side of the camera's fixing plate.



4. Replace the camera's dome cover and secure using two supplied screws.



5. Screw in the supplied standard screw (security screw for vandal-proof dome) on the dome cover.



5.6.1.4 Straight Tube Mounting

The straight tube is available in two lengths: 25cm (10 inches) and 50cm (20 inches).

Items needed:

- Indoor pendant mount kit or outdoor mount kit (standard with outdoor cameras)
- Straight tube mounting package (DVTEL camera mounting option available separately)
- Screws and screw anchors for fixing the straight tube onto the ceiling (not provided)

Straight tube mounting package contents:

- M8x12 screw x1
- Spring washer 8 x1
- Pendant tube washer x1
- Waterproof rubber gasket x1

Tools required:

- Drill
- Phillips and flat-headed screwdrivers

To install the straight tube mount:

1. Ensure that the ceiling can support the weight of the camera and straight tube.
2. Cut a cable access hole in the ceiling.
3. Attach the straight tube to the ceiling with the appropriate screws and screw anchors (not provided). For outdoor cameras, attach the waterproof gasket to the straight tube.
4. Thread the cables through the straight tube and the indoor or outdoor mount kit.
5. After threading the cables, block the entry hole with the supplied sponge to prevent insects from entering.
6. Attach the indoor or outdoor mount kit to the straight tube with the supplied screws and washers.
7. For outdoor cameras, adjust the waterproof gasket to the joint.
8. Connect the cables to the camera.
9. Secure the camera to the indoor or outdoor mount kit.
10. Ensure the camera is fixed completely, and that the thread holes on the camera's fixing plate and the mount kit are aligned.

11. Screw the supplied M5 standard screw/security screw as shown in the figure below.

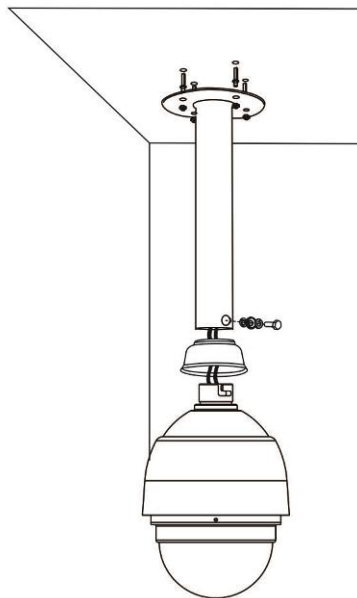
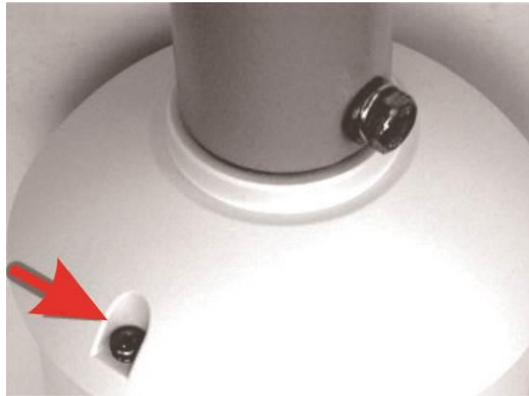


Figure 8: Ceiling Mounting: Straight Tube + Mount Kit

5.6.1.5 Swan Tube Mounting (Roof Mount)

Items needed:

- Indoor pendant mount kit or outdoor mount kit (standard with outdoor cameras)
- Swan tube mount package (DVTEL camera mounting option available separately)
- Screws and screw anchors for fixing the swan tube onto the floor (not provided)

Swan tube mounting package contents:

- M8x12 screw x1
- Spring washer 8 x1
- Pendant tube washer x1
- Waterproof rubber gasket x1

Tools required:

- Drill
- Phillips and flat-head screw drivers

To install the swan tube mount:

1. Attach the swan tube to the mounting surface using the appropriate screws and screw anchors (not provided). For outdoor models, attach the waterproof gasket to the swan tube. For indoor cameras, attach the camera to the indoor pendant mount kit by using the supplied screws.
2. Thread the cables through the swan tube and the indoor or outdoor mount kit.
3. Attach the indoor or outdoor mount kit or outdoor PTZ camera mount to the swan tube using the supplied screws and washers.
4. For outdoor cameras, fit the waterproof gasket to the joint.
5. Connect the cables to the camera.
6. Secure the camera to the indoor or outdoor mount kit.
7. Ensure the camera is fixed completely, and that the thread holes on the camera's fixing plate and the mount kit are aligned.
8. Screw in the supplied M5 standard screw/security screw as shown in the figure below.

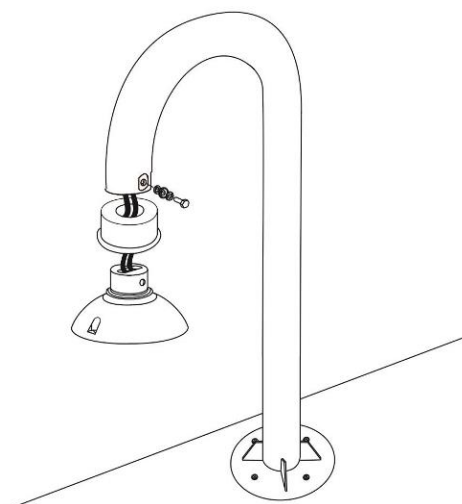
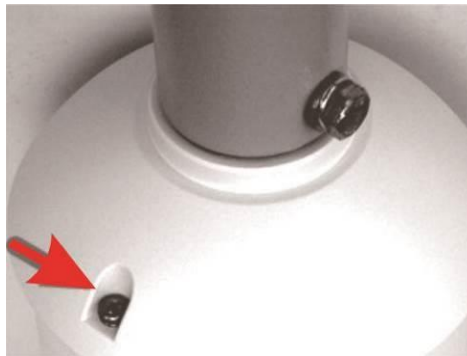


Figure 9: Swan Tube Mounting

5.6.2 Wall Mount

Wall mount methods include:

- [Standard or Compact Wall Mounting](#)
- [Wall Box Mounting](#)

5.6.2.1 Standard or Compact Wall Mount

Items needed:

- Indoor pendant mount kit or outdoor pendant mount (standard with outdoor cameras)
- Standard or compact wall mounting package (DVTEL camera mounting option available separately)
- Screws and screw anchors for fixing the standard or compact wall mount (not provided)

Standard or compact wall mounting package contents:

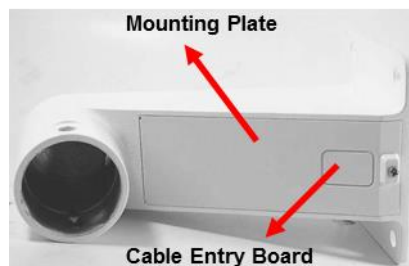
- M8x12 screw x1
- Rubber washer 8 x1
- Spring washer 8 x1
- Pendant tube washer x1
- Sponge x2

Tools required:

- Drill
- Phillips and flat-head screw drivers

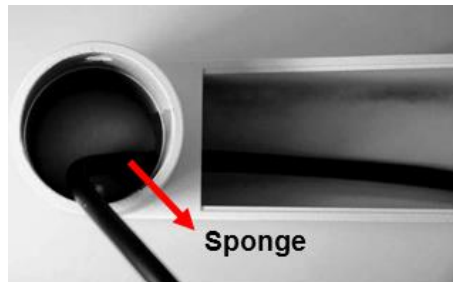
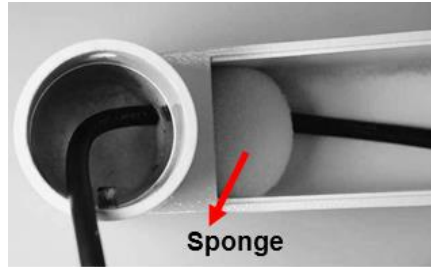
To install the standard or compact wall mount:

1. Cut a cable access hole in the wall. Cables can also be threaded through the cable entry board on the mounting plate if desired.



2. Attach the standard or compact wall mount to the wall using the appropriate screws and screw anchors (not provided). For outdoor models, attach the waterproof gasket to the wall mount.
3. Thread the cables through the wall mount.

4. After threading the cables, block the entry hole with the supplied sponge to prevent insects from entering. The sponge can be placed in one of two ways.



5. Thread the cables through the indoor pendant kit or outdoor mount kit and attach the pendant mount kit to the wall mount using the supplied screws and washers.
6. For outdoor cameras, adjust the waterproof gasket to the joint.
7. Connect the cables to the camera.
8. Secure the camera to the indoor or outdoor mount kit.
9. Ensure the camera is fixed completely, and that the thread holes on the camera's fixing plate and the mount kit are aligned.
10. Screw in the supplied screw and washer.

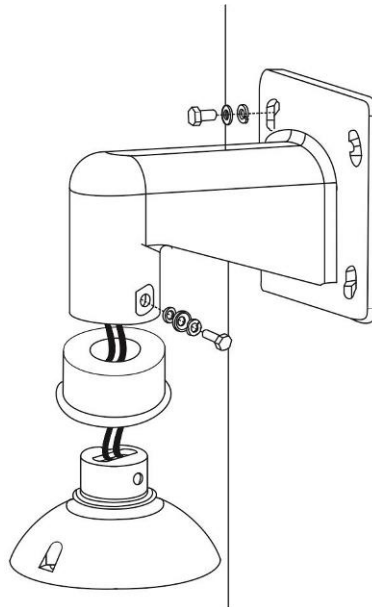


Figure 10: Wall Mount: Compact Wall Mount + Mount Kit

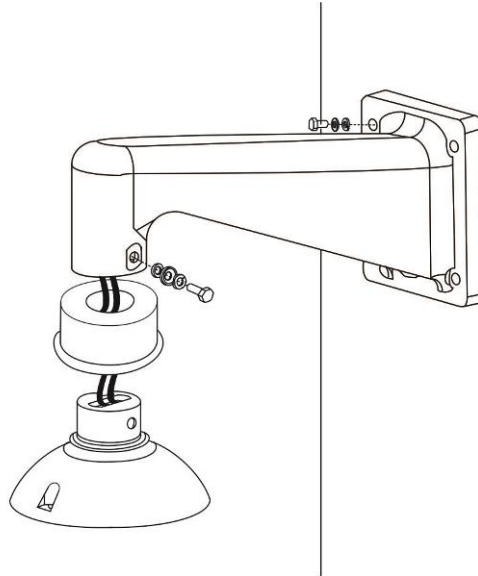


Figure 11: Wall Mount: Standard Wall Mount + Mount Kit

5.6.2.2 Wall Box Mounting

The wall box mount must be used in conjunction with the standard or compact wall mount.

Items needed:

- Indoor pendant mount kit or outdoor mount kit (standard with outdoor cameras).
- Standard/compact wall mount package (DVTEL camera mounting option available separately).
- Wall box mount package (DVTEL camera mounting option available separately).
- Screws and screw anchors for fixing the wall box mount (not provided).

Wall box mounting package contents:

- M8x16 screw x4
- Spring washer 8 x4
- Washer 8 x4
- Sponge x2

Tools required:

- Drill
- Phillips and flat-head screw drivers

To install the standard compact wall mount with wall box mount:

1. Cut a cable access hole in the wall.
2. Attach the wall box mount to the wall using the appropriate screws and screw anchors (not provided).
3. Thread the cables through the wall box mount.
4. Attach the standard/compact wall mount to the wall box mount using the supplied screws and washers.

5. Thread the cables through the standard/compact wall mount with the cables coming out of the pendant mount's outlet. For outdoor cameras, attach the waterproof gasket to the pendant mount.
6. After threading the cables, block the entry hole with the supplied sponge to prevent insects from entering. See [Standard or Compact Wall Mount](#), Step 3.
7. Thread the cables through the indoor or outdoor mount kit and attach the mount kit to the standard/compact wall mount using the supplied screws and washers.
8. For outdoor cameras, adjust the waterproof gasket to the joint.
9. Connect the cables to the camera.
10. Secure the camera to the indoor or outdoor mount kit.
11. Ensure the camera is fixed completely, and that the thread holes on the camera's fixing plate and the mount kit are aligned.
12. Screw in the supplied screw and washer.

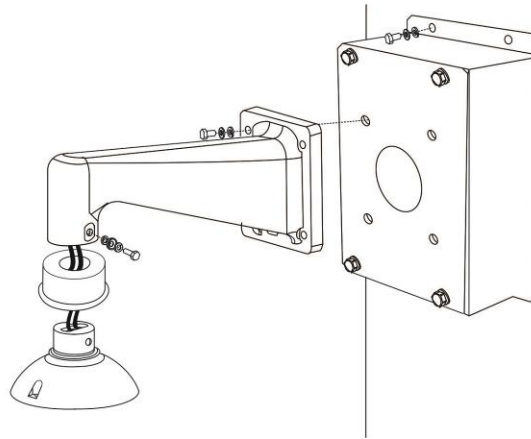


Figure 12: Wall Box Mounting: Wall Box Mount + Standard Wall Mount + Mount Kit

5.6.3 Corner Mount

There are two methods to corner-mount the camera:

- [Corner Standard Mounting Plate/Corner Plate Mini](#)
- [Corner Thin/Wide Box Mounting](#)

5.6.3.1 Corner Standard Mounting Plate/Corner Plate Mini

The corner/corner mini mounting plate must be used in conjunction with the standard or compact wall mount.

Items needed:

- Indoor pendant mount kit or outdoor mount kit (standard with outdoor cameras)
- Standard/compact wall mount package (DVTEL camera mounting option available separately)
- Corner standard mounting plate/corner plate mini package (DVTEL camera mounting option available separately)
- Screws and screw anchors for fixing the corner mounting plate (not provided)

Corner standard mounting package contents:

- M8x16 screw x4
- Spring washer 8 x4
- Washer 8 x4
- M8 Nut x4
- Sponge x2

Tools required:

- Drill
- Phillips and flat-head screw drivers

To install the standard/compact wall mount with corner/corner mini mount:

1. Cut a cable access hole in the wall.
2. Attach the corner mounting plate to the wall using the appropriate screws and screw anchors (not provided).
3. Thread the cables through the corner mounting plate.
4. Attach the standard/compact wall mount to the corner mount using the supplied screws and washers.
5. Thread the cables through the standard/compact wall mount with the cables coming out of the pendant mount's outlet. For outdoor cameras, attach the waterproof gasket to the pendant mount.
6. After threading the cables, block the entry hole with the supplied sponge to prevent insects from entering. See [Standard or Compact Wall Mount](#), Step 3.
7. Thread the cables through the indoor or outdoor mount kit and attach the mount kit to the standard/compact wall mount using the supplied screws and washers.
8. For outdoor cameras, adjust the waterproof gasket to the joint.
9. Connect the cables to the camera.
10. Secure the camera to the indoor or outdoor mount kit.
11. Ensure the camera is fixed completely, and that the thread holes on the camera's fixing plate and the mount kit are aligned.
12. Screw in the supplied screw and washer.

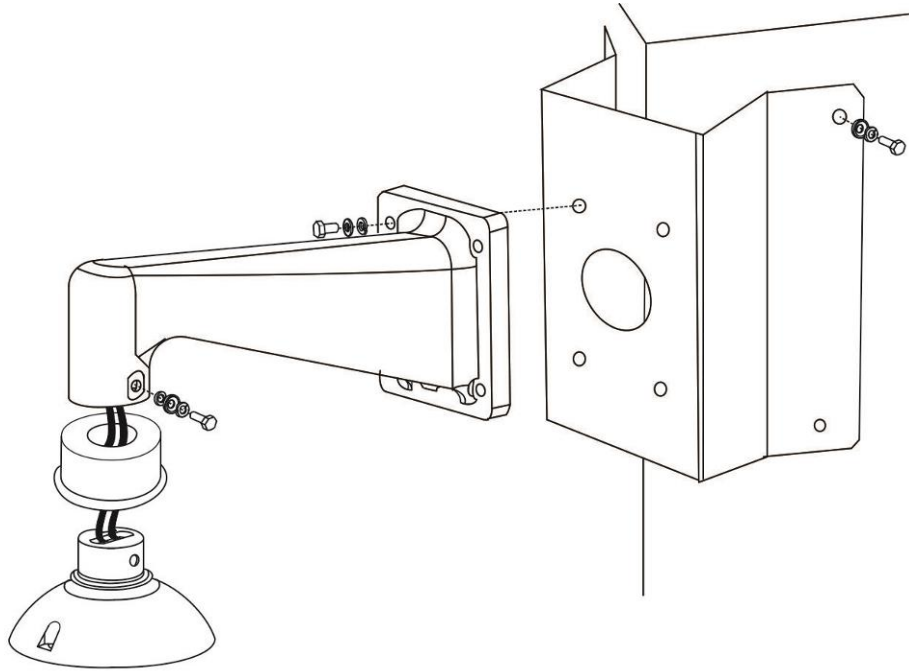


Figure 13: Corner Wall Mounting: Corner Standard/Mini Mounting Plate + Standard Wall Mount + Mount Kit

5.6.3.2 Corner Thin/Wide Box Mounting

The Corner thin/wide box mount must be used in conjunction with the standard or compact wall mount.

Items needed:

- Indoor pendant mount kit or outdoor mount kit (standard with outdoor cameras)
- Standard/compact wall mount package (DVTEL camera mounting option available separately)
- Corner thin/wide box mount package (DVTEL camera mounting option available separately)
- Waterproof rubber screws and screw anchors for fixing the Corner thin/wide box (not provided)

Wall box mounting package contents:

- M8x16 screw x4
- Spring washer 8 x4
- Washer 8 x4
- Sponge x2

Tools required:

- Drill
- Phillips and flat-head screw drivers

To install the standard/compact wall mount with corner thin/wide box mount:

1. Cut a cable access hole in the wall.
2. Attach the corner thin/wide box to the wall using the appropriate screws and screw anchors (not provided).
3. Thread the cables through the corner thin/wide box.
4. Attach the standard/compact wall mount to the corner thin/wide box using the supplied screws and washers.
5. Thread the cables through the standard/compact wall mount with the cables coming out of the pendant mount's outlet. For outdoor cameras, attach the waterproof gasket to the pendant mount.
6. After threading the cables, block the entry hole with the supplied sponge to prevent insects from entering. See [Standard or Compact Wall Mount](#), Step 3.
7. Thread the cables through the indoor or outdoor mount kit and attach the mount kit to the standard/compact wall mount using the supplied screws and washers.
8. For outdoor cameras, adjust the waterproof gasket to the joint.
9. Connect the cables to the camera.
10. Secure the camera to the indoor or outdoor mount kit.
11. Ensure the camera is fixed completely, and that the thread holes on the camera's fixing plate and the mount kit are aligned.
12. Screw in the supplied screw and washer.

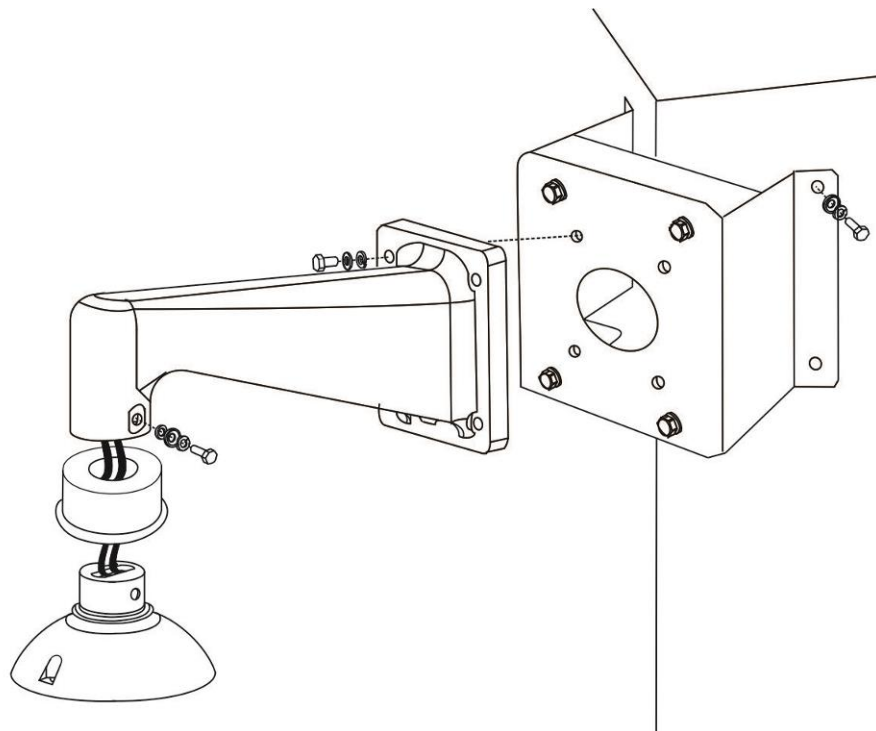


Figure 14: Corner Box Mounting: Corner Thin/Wide Box + Standard Wall Mount + Mount Kit

5.6.4 Pole Mount

There are two methods for pole-mounting a camera:

- [Pole Thin/Wide Direct Mounting](#)
- [Pole Thin/Wide Box Mounting](#)

5.6.4.1 Pole Thin/Wide Direct Mounting

The pole thin/wide direct mount must be used in conjunction with the standard or compact wall mount.

Items needed:

- Indoor pendant mount kit or outdoor mount kit (standard with outdoor cameras).
- Standard/compact wall mount package (DVTEL camera mounting option available separately).
- Pole thin/wide direct mount package (DVTEL camera mounting option available separately).

Pole thin/wide direct mounting package contents:

- Stainless steel straps x4
- M8x16 screw x4
- Spring washer 8 x4
- Washer x4
- Sponge x2

Tools required:

- Stainless steel strap cutter
- Phillips and flat-head screwdrivers

To install the standard/compact wall mount with pole thin/wide direct mount:

1. Fasten the pole thin/wide direct mount to a pole with the supplied stainless straps.
2. Thread the cables through the pole thin/wide direct mount.
3. Attach the standard/compact wall mount to the pole thin/wide direct mount using the supplied screws and washers.
4. Thread the cables through the standard/compact wall mount with the cables coming out of the pendant mount's outlet. For outdoor cameras, attach the waterproof gasket to the pendant mount.
5. After threading the cables, block the entry hole with the supplied sponge to prevent insects from entering. See [Standard or Compact Wall Mount](#), Step 3.
6. Thread the cables through the indoor or outdoor mount kit and attach the mount kit to the standard/compact wall mount using the supplied screws and washers.
7. For outdoor cameras, adjust the waterproof gasket to the joint.
8. Connect the cables to the camera.
9. Secure the camera to the indoor or outdoor mount kit.

10. Ensure the camera is fixed completely, and that the thread holes on the camera's fixing plate and the mount kit are aligned.
11. Screw in the supplied screw and washer.

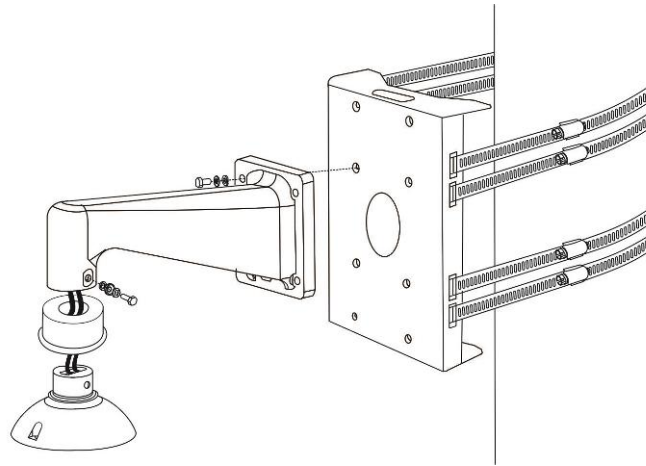


Figure 15: Pole Direct Mounting: Pole Thin/Wide Direct Mounting + Standard Wall Mount + Mount Kit

5.6.4.2 Pole Thin/Wide Box Mounting

The pole thin/wide box mount must be used in conjunction with the standard or compact wall mount.

Items needed:

- Indoor pendant mount kit or outdoor mount kit (standard with outdoor cameras)
- Standard/compact wall mount package (DVTEL camera mounting option available separately)
- Pole thin/wide box mount package (DVTEL camera mounting option available separately)

Pole thin/wide box mounting package contents:

- Stainless steel straps x4
- M8x16 screw x4
- Spring washer 8 x4
- Washer 8 x4
- Sponge x2

Tools required:

- Stainless steel strap cutter
- Phillips and flat-head screw drivers

To install the standard/compact wall mount with pole thin/wide box mount:

1. Fasten the pole thin/wide box mount to a pole with the supplied stainless straps.
2. Thread the cables through the pole thin/wide box mount.
3. Attach the standard/compact wall mount to the pole thin/wide box mount using the supplied screws and washers.

4. Thread the cables through the standard/compact wall mount with the cables coming out of the pendant mount's outlet. For outdoor cameras, attach the waterproof gasket to the pendant mount.
5. After threading the cables, block the entry hole with the supplied sponge to prevent insects from entering. See [Standard or Compact Wall Mount](#), Step 3.
6. Thread the cables through the indoor or outdoor mount kit and attach the mount kit to the standard/compact wall mount using the supplied screws and washers.
7. For outdoor cameras, adjust the waterproof gasket to the joint.
8. Connect the cables to the camera.
9. Secure the camera to the indoor or outdoor mount kit.
10. Ensure the camera is fixed completely, and that the thread holes on the camera's fixing plate and the mount kit are aligned.
11. Screw in the supplied screw and washer.

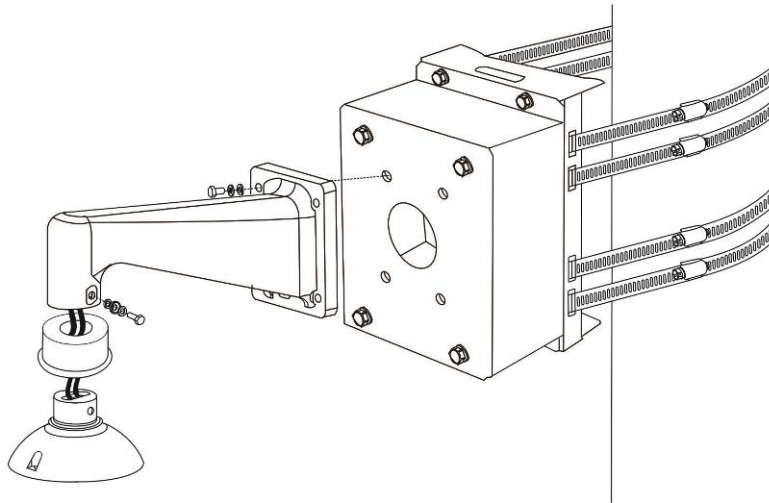


Figure 16: Pole Box Mounting: Pole Thin/Wide Box + Standard Wall Mount + Hard Ceiling Mount

6 Using the DNA Utility to Search and Access the Camera

6.1 Introduction

The DVTEL Network Assistant (DNA) is a user-friendly utility that is designed to easily discover and configure DVTEL edge devices on a network.

The DNA tool has a simple user interface and does not require any installation. The software is provided as a single, standalone executable. It runs on any PC.

DNA provides a central location for listing all the DVTEL CM, CF and CP camera models accessible over the network. Once listed, each camera can be right-clicked to access and change the network settings.

If the network settings are changed for some reason, a new search will relist the units. The units may then be configured via the web interface.

If DVTEL Latitude is being used, configure the unit with a static IP address rather than with DHCP. This ensures that the IP address will not automatically change in the future and interfere with configurations and communication.

The camera must be made accessible for the network's addressing.

**Note:**

DNA is an enhanced software alternative to Device Search. Either of these programs may be used.

To install DVTEL Web Player (DCViewer) software online:

Upon initial connection to the camera, a prompt to install the DVTEL Web Player (DCViewer) appears. If the web browser does not allow DVTEL Web Player to install, check the Internet security settings or ActiveX controls and plug-in settings to continue the process. See [Internet Security Settings](#).

**Caution:**

Users who have previously installed the DVTEL Web Player (DCViewer) on the PC should delete the existing DCViewer from the PC before accessing the camera. For information on how to uninstall and clear Temporary Internet Files, see Appendix A5: Deleting the Existing DCViewer.

Follow the instructions below to start using the DNA application.

6.2 Quick Start

1. Install and run the DNA application on a computer connected to the network. The software is an .exe file supplied in a zip file together with an Online Help file (.chm).
2. Extract both files from the zip file, and place them together in a new directory. Both files should have the same name, but different extensions (.exe and .chm).
3. Upon launching the tool, DNA automatically discovers all devices on the network. The initial launch creates a default .ini file (dna.ini).
4. In the event that there are devices that are not authenticated, click **Login** and enter login credentials for the devices.
5. If there are devices located on a separate VLAN, the devices must be added manually. Click **Add Device Manually** from the Operational Toolbar and add the devices.

6.3 Main Screen

The DNA main screen contains four sections, as seen in the following figure:

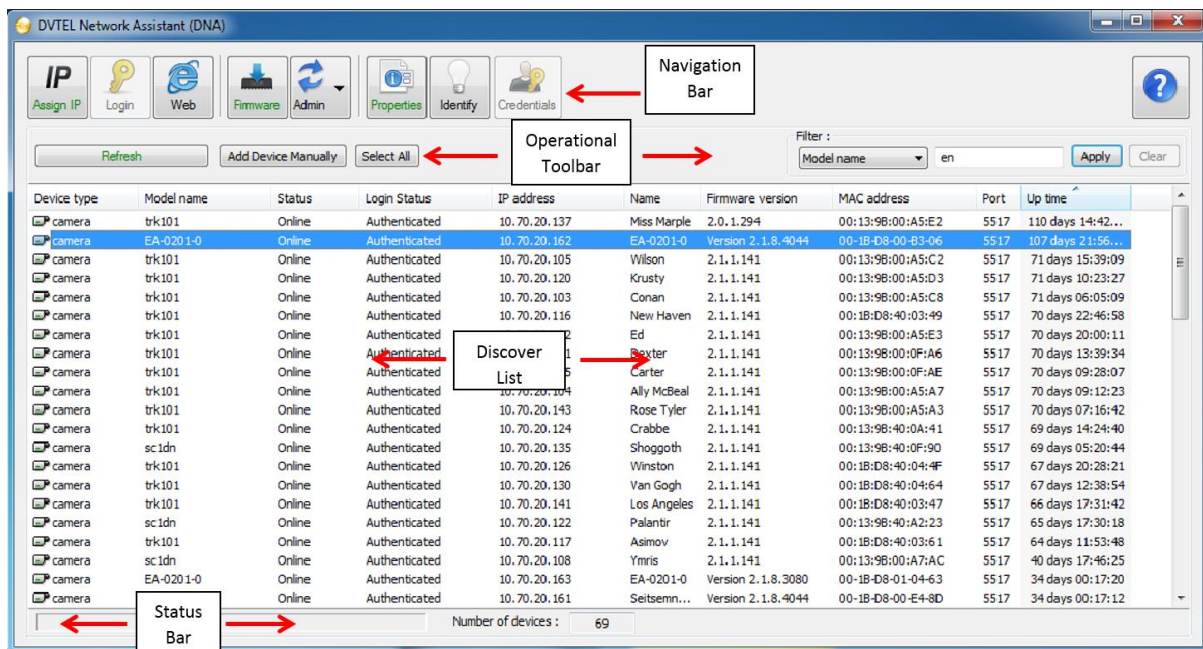


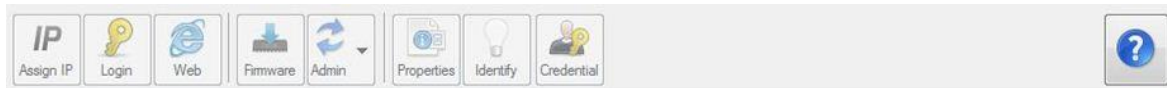
Figure 17: DNA Main Screen

6.4 Navigation Bar

The callouts on the screen are explained below:

1. **Navigation Bar:** Located at the top of the screen. Includes tabs and dropdown menus to perform actions.
2. **Operational Toolbar:** Located below the Navigation Bar. Used to refresh discovered units, filter connected devices for easy operation, and to add a device manually.
3. **Discover List:** Occupies the center of the screen. Displays a list of discovered devices with partial device information.
4. **Status Bar:** Located at the bottom of the screen. Displays current device status, including scanning time, status, and the number of discovered units.

The Navigation Bar contains tabs for all the actions needed to configure and manage attached devices. If no devices have been discovered, all the tabs are gray (disabled).



After a device has been discovered, the tabs for functions which it supports are enabled and colored, as seen in the following Figure:



To define the device on which to perform an action, the user must select the device from the Discover List. The user can select more than one device, in which case the action will be done on all selected devices.

6.5 Context Menu

All functions on the Navigation Bar are also accessible from the context menu, which is available when right-clicking on a device within the Discover List, as seen in the following figure:

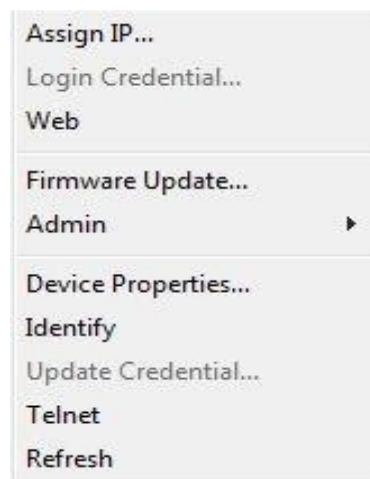



Figure 18: Context Menu

Assign IP Tab


The **Assign IP** tab  or context menu option is used to automatically assign the IP address of the selected device(s). This function can be used for automatic batch network configuration.

The **Assign IP** tab or context menu option is used to automatically assign the IP address of the selected device(s). This function can be used for automatic batch network configuration. The **Assign IP** tab or context menu option is grayed if a device has not been selected.

Selecting this tab or option opens the **Assign IP** window, which displays a list of devices which need to be updated, as shown in the illustration below. The **Assign IP** window is divided into two areas. See section 6.6 for more details.

6.6 Configuring Communication Settings on the Quasar Camera

To configure communication settings on the camera:

1. Connect the camera to the network on the same VLAN/LAN as the workstation.
2. If the network supports the default, open DNA utility by running `dna.exe` which can be found in the DNA Utility folder in the supplied CD, or click the DNA icon .



Note:

DNA is an alternative software to Device Search. Either of these programs may be used.

3. In the DNA application, click the **DNA** button.
4. If the Windows Firewall is enabled, a security alert window pops up.
5. To continue, click **Allow Access**. Latitude users should consult the Latitude Installation Instructions on disabling the Windows Firewall.

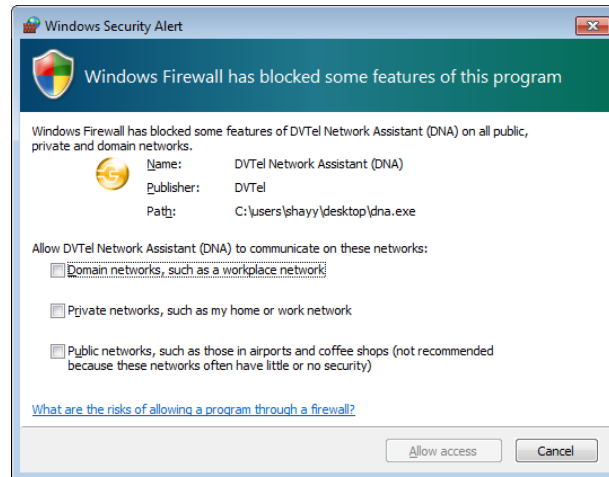


Figure 19: Windows Firewall Screen

6. Click **Assign IP**. All the discovered IP devices will be listed in the page, as shown in the figure below. The camera's default IP Address is automatically supplied by the DHCP server.

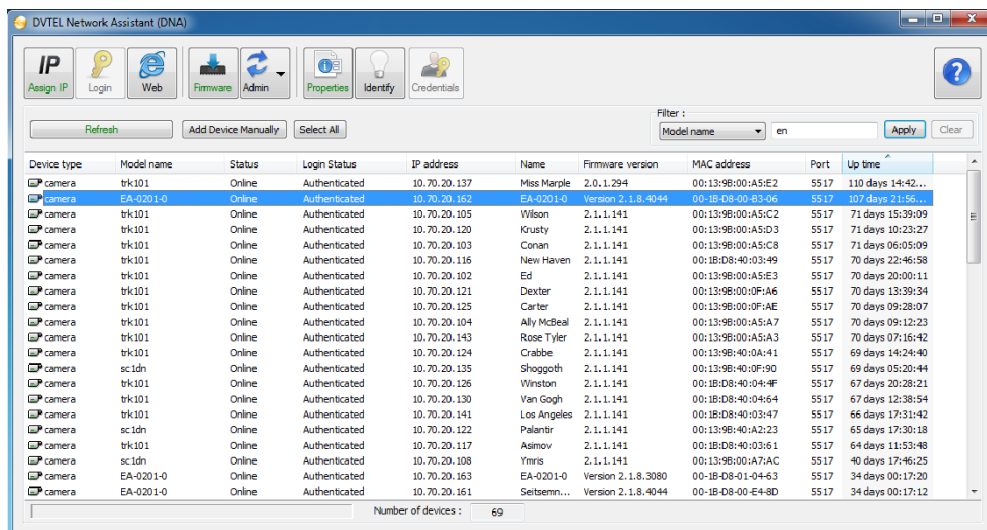


Figure 20: Discovered IP Devices

7. Right-click the camera whose network property is to be changed. From the menu that opens, select **Network Setup**. The **Network Setup** dialog is displayed.

The dialog box is titled "DNA - Assign IP (1 Device Selected)". It has a checkbox labeled "Use DHCP" which is checked. Below this, there are three input fields: "First IP Address" with value "0 . 0 . 0 . 0", "Mask" with value "0 . 0 . 0 . 0", and "Gateway" with value "0 . 0 . 0 . 0". At the bottom, there is a table with the following data:

Status	Name	Current IP	Previous IP
	MegaPixelCamera	10.70.20.237	

At the bottom right, there are "Update" and "Close" buttons.

Figure 21: DNA Assign IP – Use DHCP Dialog Box



Tip:

Record the camera's MAC address for future reference.

8. To access DNA, do one of the following:
- For DHCP (not supported by Latitude):
 - Select *Use DHCP*. Do not use for Latitude.
 - Click **Update** and wait for status.
 - For Static IP (recommended for Latitude users):

The dialog box is titled "DNA - Assign IP (1 Device Selected)". It has a checkbox labeled "Use DHCP" which is unchecked. Below this, there are three input fields: "First IP Address" with value "10 . 70 . 20 . 6", "Mask" with value "255 . 255 . 255 . 0", and "Gateway" with value "10 . 70 . 20 . 1". At the bottom, there is a table with the following data:

Status	Name	Current IP	Previous IP
	MegaPixelCamera	10.70.20.10	

At the bottom right, there are "Update" and "Close" buttons.

Figure 22: DNA Assign IP – Static IP Dialog Box

- Do not select the *Use DHCP* checkbox. This is recommended for security purposes and for Latitude users. In the IP Address, Gateway, and Netmask, enter the respective LAN/VLAN (optional DNS) values.
 - Click **Update** and wait for **OK** status to be displayed.
9. Right-click and select **Browse** to directly access the camera via a web browser. The default web browser opens and requests access to the camera IP address.
10. When the web browser contacts the camera IP, do the following:
- Login using the default user name *Admin* and password *1234*.



Note:

ID and password are case-sensitive.

**Note:**

It is strongly advised that administrator's password be altered for security reasons.

b) If the Information Bar (just below the URL bar) prompts for permission to install the ActiveX Control for displaying video in the browser (see the figure below), right-click on the Information Bar. Select **Install ActiveX Control** to allow the installation.

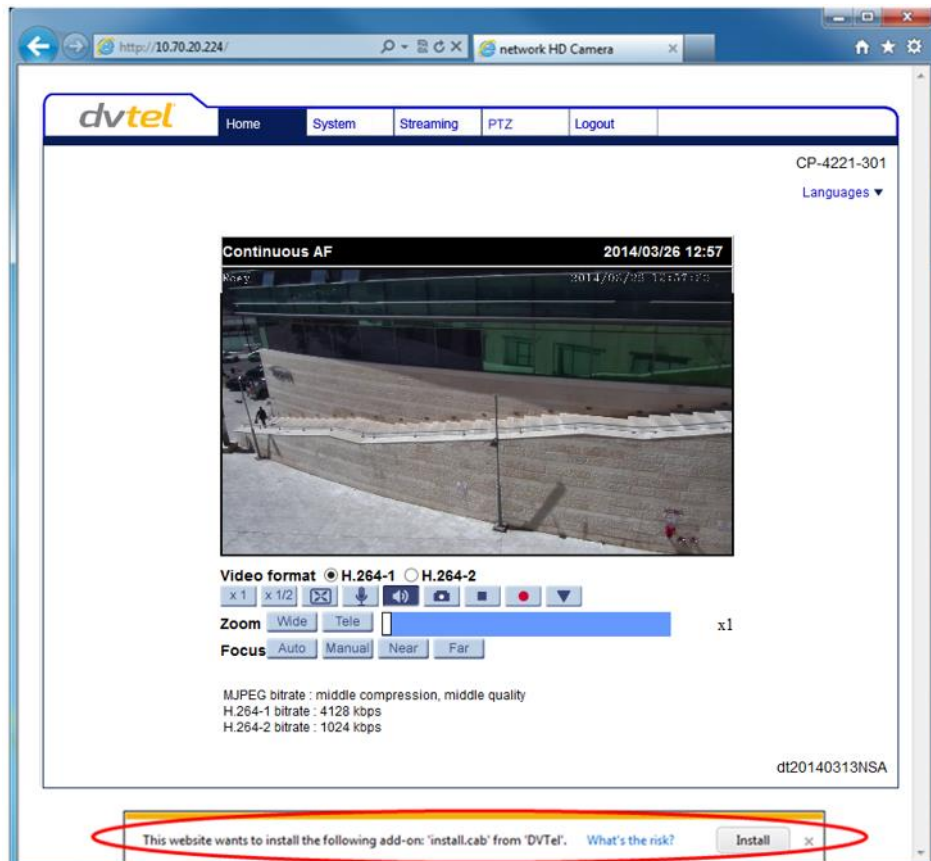


Figure 23: Installing the ActiveX Control

If a security warning window prompt appears, click **Install**.



Figure 24: Security Window

11. If the wizard appears for installing the component application DCViewer, follow the instructions to complete the installation.

**Note:**

If the password is changed and DVTEL Latitude AdminCenter Discovery feature is in use, deselect all other proprietary types. Select **DVTEL HD Series** so that the new password can be configured in the Discovery tab settings.

Additionally, users can change the camera's network property (either DHCP or Static IP) directly in the device finding list. Refer to the following section for changing the camera's network property.


6.7 Adjusting and Framing-Up the Camera View

After the camera is connected to the network and running, it is necessary to frame-up the scene and adjust the camera settings to optimize the picture for the individual scenes. If Latitude is being used, consider scheduling different settings for changing ambient conditions throughout the day, week, month or seasons.

To adjust and frame-up the camera view:

1. In the DNA application, click **DNA**.
2. In the results, click to select the camera.
3. Right-click to open the shortcut menu, and select **Browse**, or enter the camera's IP address in your Internet browser's URL address bar.
4. When the Internet browser connects to the camera and prompts for login, do the following:
 - a. Log in using the default user name *Admin* and password *1234*. If the password has previously been changed, use the new password.
 - b. Allow the ActiveX to download and choose to install the DVTEL Web Player (DCViewer).

**Tip:**

To view greater image detail for more accurate high-definition focusing, on the web interface **Home** page, click the **Full Screen**  button and use the full screen view to check the focus.

**Note:**

Best focusing results can be achieved when the lens iris is fully open (such as at night in low light). This prevents loss of sharpness if light levels are reduced at night.

5. During daylight hours, from the web interface's **Camera > Exposure** screen, select **Exposure Setting > Auto Shutter**.
6. Press <V> to confirm the new setting.

7 Configuration and Operation

The Quasar CP series camera is provided with a browser-based configuration interface for video playback and recording. In this chapter, information about main page introduction, system related settings and camera settings are described in detail.

Additionally, if DVTEL Latitude is used, many of the configurations and features of DVTEL's VMS provide configuration and automation of the camera.

This section includes the following information:

- [Browser-Based Viewer Introduction](#)
- [Home Page](#)
- [System-Related Settings](#)
- [Video and Audio Streaming Settings](#)
- [PTZ Settings](#)
- [Logout](#)

7.1 Browser-Based Viewer Introduction

The figure below shows the Quasar camera's browser-based user interface.

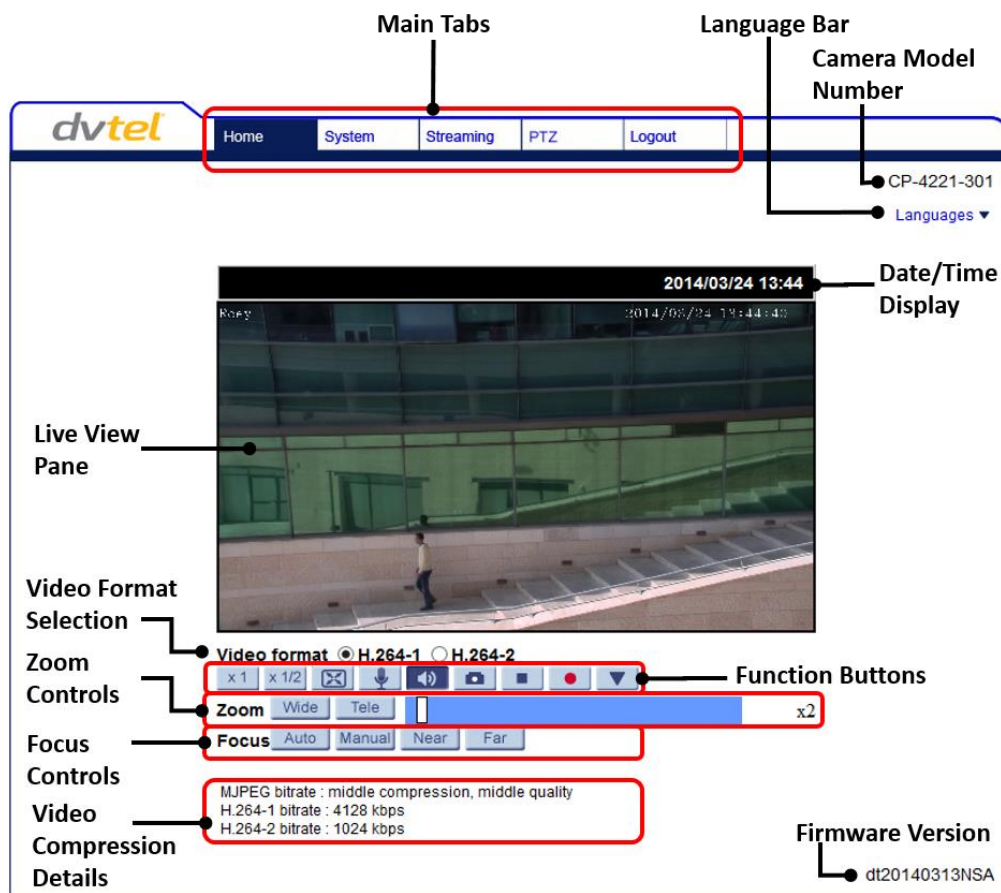


Figure 25: Quasar Browser-Based User Interface

- At the top of the **Viewer Window** is the Navigation Bar, which contains five main tabs:
Home, System, Streaming, PTZ, and Logout.
 - **Home Page**
Users can monitor live video of the targeted area, adjust the display size including use of the digital zoom feature, activate or de-activate the speaker (audio function), take snapshots of the view area, stop/start video streaming, and record video in a designated storage place. Further details are discussed in [Home Page](#).
 - **System Settings**
The administrator can set host name, system time, root password, network related settings, etc. Further details are discussed in [System-Related Settings](#).
 - **Streaming Settings**
The administrator can modify video resolution and picture rotation and select audio compression mode on this page. Further details are discussed in [Video and Audio Streaming Settings](#).
 - **PTZ Settings**
Users can program Preset Points, Pattern Lines, Auto Pan Paths, Sequence Lines, Tilt Angle and Privacy masks as well as adjust various camera parameters including Auto Exposure (AE), White Balance (WB), Back Light Compensation (BLC), Sharpness, Exposure Compensation, Flip, ICR Function, WDR Function, Auto Calibration, Noise Reduction, and TV System. See [PTZ Settings](#).
 - **Logout**
Click on the tab to re-login the camera with another username and password. See [Logout](#).

The following items are displayed on the screen:

- In the top right-hand corner of the Viewer window, the camera model number is displayed.
- Below the camera model number is the Language bar. Supported languages include English, German, French, Italian, Simplified Chinese, Traditional Chinese, Russian, and Korean.
- In the center of the Viewer window is the Live View pane, which displays the image that the camera is monitoring.
- On the right side of the black bar at the top of the Live View pane is the Time Display.
- Under the Live View pane is the Video Format selection, enabling H.264-1 or H.264-2 to be selected.
- Below the Video Format selection are the Function buttons, which are discussed in the following section.
- Under the Function buttons are the Video Compression details, including bit rate, compression, and quality.
- In the bottom right-hand corner of the Viewer window, the firmware version of the camera is displayed.

**Tip**

Double-clicking on the video screen opens a pop-up window, which displays important information relating to the format, video size, video and audio bit rates, etc.

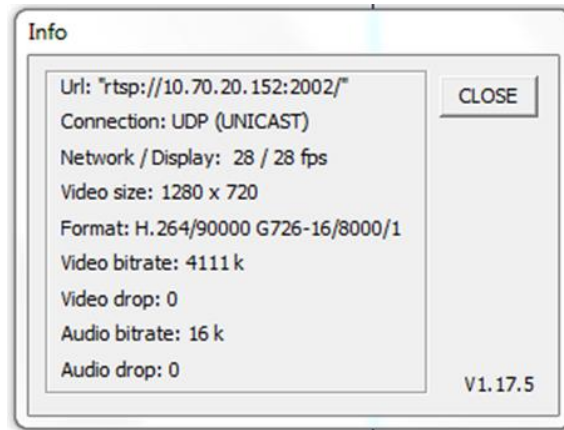


Figure 26: Info Pop-Up Screen

7.2 Home Page

Following is a description of the Quasar HD PTZ CP-3211 and CP-4221 camera.

7.2.1 CP-3211/CP-4221 Camera Home Page

All models in the CP-3211 and CP-4221 series include the following function buttons located on the Home page, as shown in Figure 27 and Tables 7, 8 and 9.

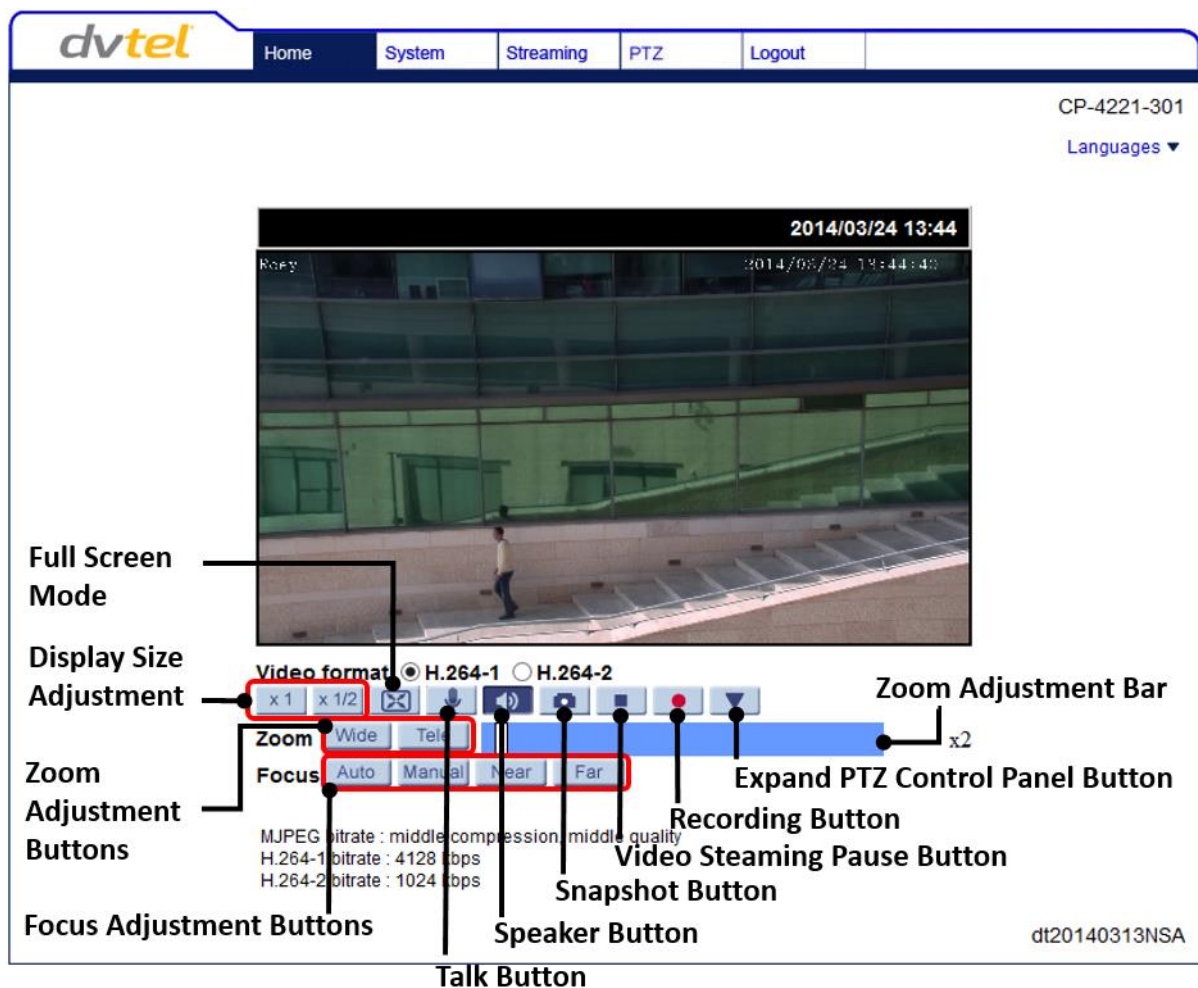










Figure 27: Home Page Function Buttons

Table 7: Home Page Function Buttons – No.1





Button	Description
	Display Size Adjustment (x1/x½)
	Full Screen Mode (with Digital Zoom Control)
	Talk (on/off)
	Speaker (on/off)
	Snapshot
	Video Streaming Stop/Restart (Pause) (stop/restart)
	Recording (on/off)
	Zoom Adjustment

Following is an explanation of the function buttons listed above:

- o **Display Size Adjustment (x1/x½)**
The image display size can be adjusted to full-size or half-size.
- o **Full Screen Mode (with Digital Zoom Control)**
Click this button to view the monitored image in full screen mode. Use the mouse to control zoom effects in Full Screen mode: scroll the mouse wheel (for zoom in/out), and drag the mouse into any direction. Double-click on the screen to exit Full Screen mode and return to the **Home** page.
- o **Talk**
The **Talk** button allows the local site to talk to the remote site. Click the button to switch it on/off. This function is available only to a user who has been granted this privilege by the Administrator. Refer to [User](#) in the Security section for further details.
- o **Speaker**
Press the **Speaker** button to mute/activate the audio. This function is available only to a user who has been granted this privilege by the Administrator. Refer to [User](#) in the Security section for further details.
- o **Snapshot**
Press this button to automatically save the JPEG snapshots in the specified location. The default location to save snapshots is: C:\. To change the storage location, refer to [File Location](#).
- o **Video Streaming Stop/Restart**
Press the **Stop** button to disable video streaming and to display the live video as black. Press **Restart** to show the live video again.

- o **Recording**
Pressing the **Recording** button stores recordings from the Live View in the location specified on the local hard drive, which can be configured in the **File Location** screen. The default storage location for the web recording is: C:/. Refer to [File Location](#) for details.
- o **Zoom Adjustment**
Click the **Wide/Tele** buttons to control zoom out/in, or move the zoom adjustment bar to the desired zoom ratio.







Table 8: Home Page Function Buttons – No.2

Button	Description
	Auto Focus (Continuous AF)
	Manual Focus
	Near
	Far

Following is an explanation of the function button listed above:

- o **Optical/Digital Zoom Control**
In Normal View display mode, you can zoom in/out by moving the cursor to the Live Video pane and scrolling the mouse wheel. Digital zoom is only available when the function is activated and set up on the **Camera-Misc1** screen under the PTZ tab. See the Camera—Miscellaneous Settings Menu 1 section for details. When the camera reaches the limit of its optical range, it automatically switches to digital zoom.
- o **Focus Adjustment**
 - **Auto Focus (Continuous AF)** – Click the **auto** button to enable AF mode. In this mode, the camera automatically and continuously maintains focus regardless of zoom or view changes. The Focus status is displayed above the Live View pane.
 - **Manual Focus** – Click the **manual** button to adjust focus manually using the **Near/Far** buttons. The focus status is displayed above the Live View pane.

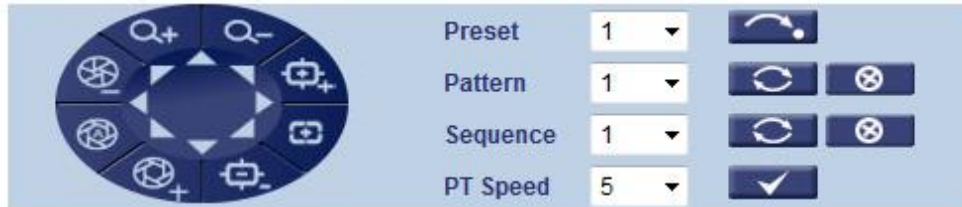
Table 9: Home Page Function Buttons – No.3

Button	Description
	PTZ Control Panel Button
	Pan & Tilt Direction Control
	Iris Control (Auto Iris/Iris+/Iris-)
	Zoom (Zoom In/Zoom Out)
	Focus (Auto Focus/Focus Near/Focus Far)
	Preset/Pattern/Sequence/PT Speed

o **Expand PTZ Control Panel**

Use the PTZ control panel to quickly and easily control iris, angle, tilt, and zoom settings for the Live View pane, and to run Presets, Pattern lines, and Sequence paths.

Click this button to expand the PTZ control panel:



- The PT Speed setting controls the rate at which the pan and tilt changes. Set a number between 1 and 10 as the PT Speed every time users pan or tilt the camera via the Pan & Tilt Direction Control Panel.
- To stop running a Pattern or Sequence path, move the cursor to the Live View pane and move the camera in any direction.
- Select a Preset/Pattern/Sequence line and start it by clicking the **Run** button

See [PTZ Settings](#) for detailed information about these functions.

o **Live View Pane Pan/Tilt Control**

Control pan/tilt by left-clicking the cursor in the Live View pane and dragging the pointer in any direction. Placing the pointer close to the center of the image results in a slow rate of change. Placing the pointer further from the center results in a more rapid rate of change.

7.3 System-Related Settings

The figure below shows all categories under the **System** tab. Each category in the sidebar is explained in the following sections.



Note:

The **System** configuration page is accessible only by the Administrator.

Figure 28: System Screen

Related Links

- [System](#)
- [Security](#)
- [Network](#)
- [DDNS](#)
- [Mail](#)
- [FTP](#)
- [HTTP](#)
- [Application](#)
- [Motion Detection](#)
- [Network Failure Detection](#)
- [Storage Management](#)
- [Recording](#)
- [Schedule](#)
- [File Location](#)
- [View Information](#)
- [Factory Default](#)
- [Software Version](#)
- [Software Upgrade](#)
- [Maintenance](#)

7.3.1 System

Click the **System** tab in the sidebar. The **System** page is displayed in Figure 28: System Screen. It includes the following details:

Host Name

The host name is for camera identification. If the alarm function is enabled and is set to send an alarm message by Mail/FTP, the host name entered here is displayed in the alarm message. See [Application](#).

Time Zone

Select the time zone from the drop-down menu.

Enable Daylight Saving Time

To enable DST, check the box and then specify time offset and DST duration. The format for time offset is [hh:mm:ss]. For example, if the amount of time offset is one hour, enter 01:00:00 in the field.

Time (Date) Format

Enables a choice of formats: either year, month and day (yyyy/mm/dd) or day, month and year (dd/mm/yyyy).

Sync with Computer Time

Select this button to synchronize video date and time display with the PC.

Manual

The Administrator can set video date, time and day manually. Entry format should be identical with that shown next to the **Enter** field.

Sync with NTP Server

Network Time Protocol (NTP) is an alternate way to synchronize the camera's clock with an NTP server. Specify the server to synchronize in the **Enter** field. Then select an update interval from the drop-down menu. For further information about NTP, visit www.ntp.org.

7.3.2 Security

Clicking the **Security** tab in the **System** screen opens a drop-down menu with the tabs: **User**, **HTTPS**, **IP Filter** and **IEEE 802.1X**.

The screenshot shows the dvtel web interface. The top navigation bar includes Home, System, Streaming, PTZ, and Logout. The left sidebar lists various system settings: System, Security (selected), User, HTTPS, IP filter, IEEE 802.1X, Network, DDNS, Mail, FTP, HTTP, Application, Motion detection, Network failure detection, Storage management, Recording, Schedule, File location, View information, Factory default, and Software version. The main content area is titled 'Security' and contains three sections: 'Admin Password' with fields for Admin password and Confirm password (both masked with dots), a 'Save' button, and a note 'Maximum 14 characters allowed'; 'Add User' with fields for User name and User password (masked), an 'Add' button, and checkboxes for I/O access, Camera control, Talk, and Listen; and 'Manage User' with a dropdown menu for User name (currently showing '-- no user --'), and 'Delete' and 'Edit' buttons.

Figure 29: System Configuration – Security Screen

Related Links

- [User](#)
- [HTTPS](#)
- [IP Filter](#)
- [IEEE 802.1X](#)

7.3.2.1 User

Click the **User** tab in the **Security** category on the sidebar to display user credentials.

The screenshot shows the dvitel web interface. The top navigation bar includes links for Home, System, Streaming, PTZ, and Logout. The left sidebar lists various configuration categories: System, Security (expanded), User (highlighted), HTTPS, IP filter, IEEE 802.1X, Network (expanded), DDNS, Mail, FTP, HTTP, Application, Motion detection, Network failure detection, Storage management, Recording, Schedule, File location, View information (expanded), Factory default, and Software version. The main content area is titled 'Security' and contains three sections: 'Admin Password' with fields for 'Admin password' and 'Confirm password' (both masked with dots) and a 'Save' button; 'Add User' with fields for 'User name' and 'User password' (both masked with dots), a note 'Maximum 14 characters allowed', and checkboxes for 'I/O access' (checked), 'Camera control', 'Talk', and 'Listen', with an 'Add' button; and 'Manage User' with a 'User name' dropdown menu (showing '-- no user --') and 'Delete' and 'Edit' buttons.

Figure 30: System Configuration – User Screen

Admin Password

Change the administrator's password by entering the new password in both text boxes. The input characters/numbers are displayed as dots for security purposes. After clicking **Save**, the web browser asks the Administrator for the new password (maximum 14 digits).



Note:

The following characters are valid: A-Z, a-z, 0-9, !#\$%&'-.@^_~.

Add user

The user name and passwords are limited to 14 characters. There is a maximum of 20 user accounts.

To add a new user:

1. Type the new user name and password in the respective fields.
2. Select the appropriate check boxes to give the user Camera Control, Talk and Listen permissions.
 - *I/O access* – Basic functions that enable you to view video when accessing to the camera.
 - *Camera control* – Allows you to change camera parameters on the **Camera** tab.
 - *Talk/Listen* – *Talk* and *Listen* functions allow the user at the local site to communicate with the administrator at the remote site.
3. Click **Add**.

Manage User

- To delete a user, pull down the user list and select the user name to delete. Click **Delete** to remove it.
- To edit a user, pull the user list down and select a user name. Click **Edit** to edit the user's password and privileges



Figure 31: Editing Password and Privileges



Note:

You must enter the user password and also select the authorized function(s). When finished, click **Save** to modify the account authority.



Figure 32: Modifying Account Authority

7.3.2.2 HTTPS

To use HTTPS on the camera, an HTTPS certificate must be installed. The HTTPS certificate can be obtained either by creating and sending a certificate request to a Certificate Authority (CA) or by creating a self-signed HTTPS certificate as described below.

**Note:**

The self-signed certificate does not provide the same level of security as a CA-issued certificate.

HTTPS allows secure connections between the camera and web browser using Secure Socket Layer (SSL) or Transport Layer Security (TLS) to protect camera settings and username/password info. A self-signed certificate or a CA-signed certificate is required to implement HTTPS. Under the **Security** category, click the **HTTPS** tab in the sidebar to display the following screen.

Figure 33: HTTPS Screen

To create a self-signed certificate:

Before a CA-issued certificate is obtained, users can first create and install a self-signed certificate.

1. On the **HTTPS** page, click **Create** under *Create self-signed certificate*.
2. Provide the requested information to install a self-signed certificate for the camera. Refer to *Provide the Certificate Information* in this section for details.

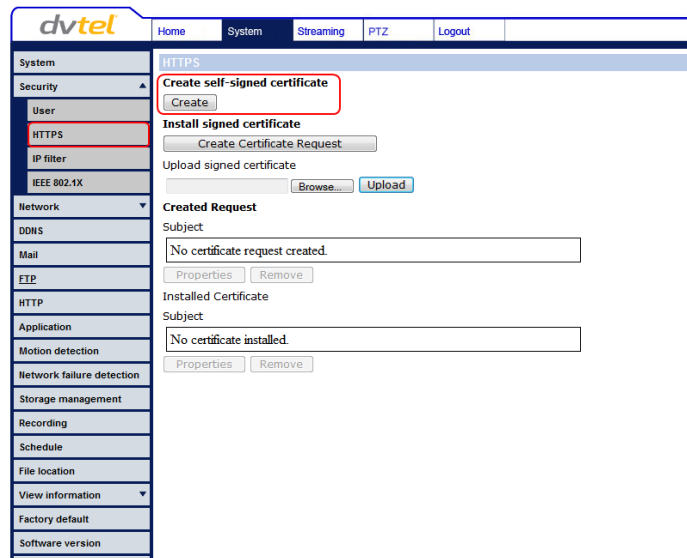


Figure 34: HTTPS Screen – Create Self-Signed Certificate

To create a certificate request:

1. Click **Create Certificate Request** to create and submit a certificate request in order to obtain a signed certificate from a CA.
2. Provide the requested information in the *Created Request* field. Refer to *Provide the Certificate Information* in this section for details.
3. When the request is complete, the subject of the *Created Request* is shown in the field. Click **Properties** below the *Subject* field, copy the PEM-formatted request and send it to your CA.

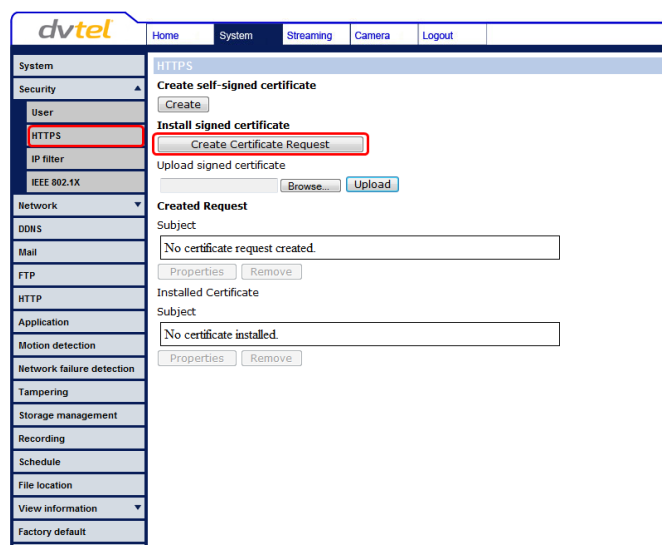


Figure 35: HTTPS Screen – Install Signed Certificate

4. When the signed certificate is returned from the CA, install it by uploading the signed certificate as seen below.

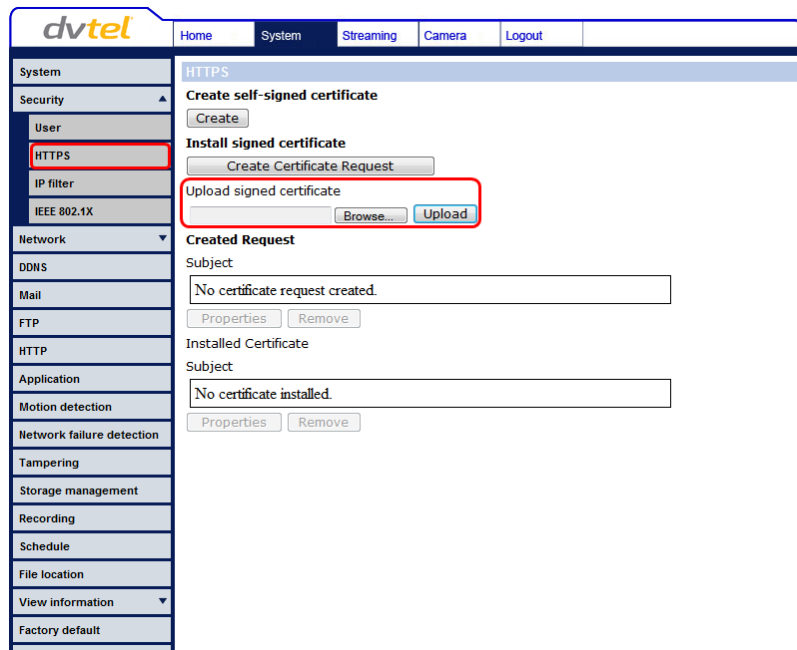


Figure 36: HTTPS Screen – Upload Signed Certificate

To provide the certificate information:

To create a self-signed HTTPS certificate or a Certificate Request to CA, enter the information in the **Create a Self-signed Certificate** screen. A definition of each of the requested fields follows.

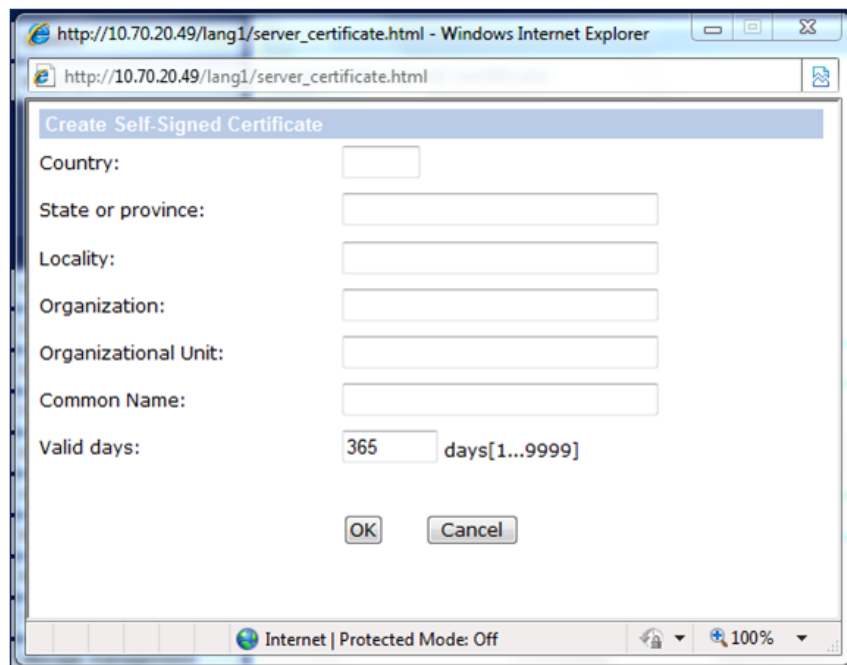
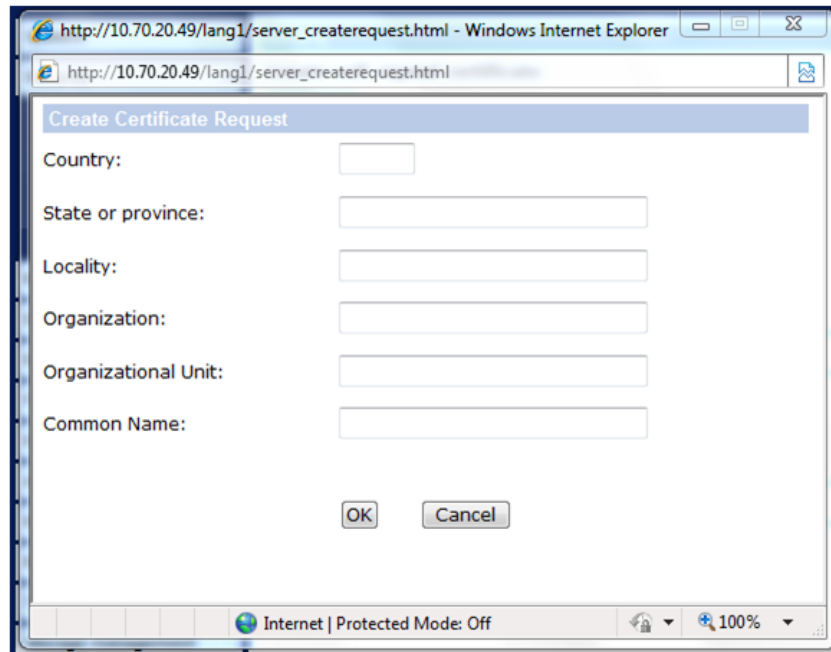


Figure 37: Example of Self-Signed Certificate



The screenshot shows a Windows Internet Explorer window with the address bar displaying 'http://10.70.20.49/lang1/server_createrequest.html'. The main content area is titled 'Create Certificate Request' and contains a form with the following fields: Country, State or province, Locality, Organization, Organizational Unit, and Common Name. Each field has a corresponding text input box. At the bottom of the form are 'OK' and 'Cancel' buttons. The browser's status bar at the bottom indicates 'Internet | Protected Mode: Off' and a zoom level of '100%'.

Figure 38: Self-Signed Certificate – Details

5. Provide the requested information to install a self-signed certificate for the camera.

- *Country* – Enter a two-letter combination code to indicate the specific country in which the certificate will be used. For instance, type “US” to indicate United States.
- *State or province* – Enter the local administrative region.
- *Locality* – Enter other geographical information.
- *Organization* – Enter the name of the organization to which the entity identified in *Common Name* belongs.
- *Organizational Unit* – Enter the name of the organizational unit to which the entity identified in the *Common Name* field belongs.
- *Common Name* – Indicate the name of the person or other entity that the certificate identifies (often used to identify the website).
- *Valid days* (self-signed certificate only) – Enter the period in days (1 ~ 9999) to indicate the valid period of certificate.

6. Click **OK** to save the certificate information after completion.



Note:

The self-signed certificate does not provide the same high level of security as a Certificate Authorized (CA)-issued certificate.

7.3.2.3 IP Filter

The IP filter restricts access to the camera by denying/allowing specific IP addresses. Click the **IP filter** tab under the category **Security** in the sidebar to display the following page.

The screenshot shows the dvitel web interface. The top navigation bar includes 'Home', 'System', 'Streaming', 'PTZ', and 'Logout'. The left sidebar lists various system settings under 'System' and 'Security'. The 'Security' category is expanded, and 'IP filter' is selected. The main panel displays the 'IP Filter' configuration. It includes a checkbox for 'Enable IP filter', a dropdown menu set to 'Deny' with the text 'the following IP addresses', and an 'Apply' button. Below this is a section titled 'Filtered IP Addresses' which contains a large empty text box, a 'Delete' button, and an 'Add' button. At the bottom of this section is a text input field containing '0.0.0.0'.

Figure 39: IP Filter Screen

Enable IP Filter

1. Check the box to enable the IP Filter function. Once enabled, the listed IP addresses (IPv4) are allowed/denied access to the camera.
2. Select *Allow* or *Deny* from the drop-down menu.
3. Click **Apply** to determine the IP Filter behavior.

Add/Delete IP Address

1. Enter the IP address in the *Filtered IP Addresses* text box.
2. Click **Add** to add a new filtered address. The *Filtered IP Addresses* box shows the currently configured IP addresses. Up to 256 IP address entries may be specified.
3. To remove an IP address from the list, select the IP address and then click **Delete**.

7.3.2.4 IEEE 802.1X

The camera is allowed to access a network protected by 802.1X/EAPOL (Extensible Authentication Protocol over LAN). Users must contact the network administrator to obtain certificates, user IDs, and passwords.

Figure 40: Enabling the IEEE 802.1X Protocol

CA Certificate

The CA certificate is created by the Certificate Authority for the purpose of validating itself. Upload the certificate to check the server's identity.

Client Certificate/Private Key

Upload the Client Certificate and Private Key to authenticate the camera.

Settings

- **Identity** – Enter the user identity associated with the certificate. Up to 16 characters can be used.
- **Private Key Password** – Enter the password associated with the user identity. Up to 16 characters can be used.

Enable IEEE 802.1X

Check the box to enable IEEE 802.1X. Click **Save** to save the IEEE 802.1X/EAPTLS setting.

7.3.3 Network

From the **System** screen, click the **Network** tab. A drop-down menu appears with tabs including **Basic**, **QoS**, **SNMP**, and **UPnP**.

Figure 41: Network Screen

Related Links

- [Basic](#)
- [QoS \(Quality of Service\)](#)
- [SNMP Settings](#)
- [UPnP](#)

7.3.3.1 Basic

You can connect to the camera with either fixed or dynamic (DHCP) IP address. The camera also provides PPPoE (Point-to-Point Protocol over Ethernet) support for users who connect to the network via PPPoE.

1. General

Select one of the following options in the *General* area for configuring network settings:

- **Get IP address automatically (DHCP)**

If you select *Get IP address automatically*, you can use the DNA utility, which is provided in the supplied CD, to obtain the IP address. See [Using the DNA Utility to Search and Access the Camera](#).



Note:

For future reference, record the camera's MAC address, which is found on the camera label.

- **Use fixed IP address**

The camera's default setting is *Use fixed IP address*. Refer to [Accessing Camera](#) for login with the default IP address. You may use DNA or enter the IP address in your browser's URL address bar.

To set up a new static IP address:

1. Select the Use fixed IP address option.
2. Enter the following information:
 - o *IP address* – The IP address is necessary for network identification.
 - o *Subnet mask* – Used to determine if the destination is in the same subnet. The default value is 255.255.255.0.
 - o *Default gateway* – Used to forward frames to destinations in a different subnet. An invalid gateway setting causes transmission to destinations in other subnets to fail.
 - o *Primary DNS* – The primary domain name server that translates host names into IP addresses.
 - o *Secondary DNS* – A secondary domain name server that backs up the primary DNS.
 - o *Use PPPoE* – PPPoE users should enter their PPPoE user name and password into the respective fields.
3. Click **Save** to confirm the settings.

2. Advanced

Enter the following advanced parameters in the *Advanced* section of the screen:

- *Web Server port* – The default web server port is 80. Once the port is changed, the user must be notified the change for the connection to be successful. For instance, when the Administrator changes the HTTP port of the camera whose IP address is 192.168.0.100 from 80 to 8080, the user must type in the web browser `http://192.168.0.100:8080` instead of `http://192.168.0.100`.
- *RTSP port* – The default setting of the RTSP port is 554. The range is from 1024 to 65535.
- *MJPEG over HTTP port* – The default setting of MJPEG over HTTP port is 8008. The range is from 1024 to 65535.

**Note:**

MJPEG is not supported by Latitude.

- *HTTPS port* – The default setting of HTTPS port is 443. The range is from 1024 to 65535.
- *MTU* – The default setting of the MTU (Maximum Transmission Unit) is the greatest amount of data that can be transferred in one physical frame on the network. For Ethernet, the MTU is 1500 bytes. For PPPoE, the MTU is 1492. The range is from 700 to 1500 bytes.

**Note:**

Be sure to assign a different port number for each separate service mentioned above.

Click **Save** to save the settings.

3. IPv6 Address Configuration

With IPv6 support, you can use the corresponding IPv6 address for browsing. Check *Enable IPv6* to enable this option. Click **Save** to save the settings.

7.3.3.2 QoS (Quality of Service)

QoS provides differentiated service levels for different types of traffic packets and guarantees delivery of priority services during periods of network congestion. Adapting the Differentiated Services (DiffServ) model, traffic flows are classified and marked with DSCP (DiffServ Code point) values, and as a result receive the corresponding forwarding treatment from DiffServ-capable routers.

Figure 42: Network QoS Screen – DSCP Settings

DSCP Settings

The DSCP value range is from 0 to 63. The default DSCP value is 0 (DSCP disabled). The camera uses the following QoS classes: Video, Audio, and Management.

- *Video DSCP* – This class consists of applications such as MJPEG over HTTP, RTP/RTSP and RTSP/HTTP.



Note:

MJPEG is not supported by Latitude.

- *Audio DSCP* – The CP-3211/4221 cameras support audio.
- *Management DSCP* – This class consists of HTTP traffic (web browsing).

Click **Save** when complete.



Note:

To enable this function, make sure the switches/routers in the network support QoS.

7.3.3.3 SNMP Settings

Simple Network Management Protocol (SNMP) enables the camera to be monitored and managed remotely by the network management system.

The screenshot shows the dvtel web interface. The left sidebar contains a menu with the following items: System, Security, Network (expanded), Basic, QoS, SNMP (highlighted with a red box), UPnP, DDNS, Mail, FTP, HTTP, Application, Motion detection, Network failure detection, Storage management, Recording, Schedule, File location, View information, Factory default, and Software version. The main content area is titled 'SNMP Settings'. It contains three main sections: 'SNMP v1/v2' with checkboxes for 'Enable SNMP v1' and 'Enable SNMP v2', and text input fields for 'Read Community' (default 'public') and 'Write Community' (default 'private'); 'SNMP v3' with a checkbox for 'Enable SNMP v3', and dropdown menus for 'Security Name', 'Authentication Type' (MD5), 'Authentication Password', 'Encryption Type' (DES), and 'Encryption Password'; and 'Traps for SNMP v1/v2/v3' with a checkbox for 'Enable traps', and text input fields for 'Trap address' and 'Trap community' (default 'public'). There is also a 'Trap Option' section with a checkbox for 'Warm start'. A 'Save' button is located at the bottom of the settings area.

Figure 43: SNMP Settings Screen

SNMP v1/v2

- *Enable SNMP v1* or *Enable SNMP v2* – Select the version of SNMP (v1 or v2) to use by checking the relevant box.
- *Read Community* – Specify the community name that has read-only access to all supported SNMP objects. The default value is *public*.
- *Write Community* – Specify the community name that has read/write access to all supported SNMP objects (except read-only objects). The default value is *private*.

SNMP v3

SNMP v3 provides important security features including:

- Confidentiality – Encryption of packets to prevent snooping by an unauthorized source.
- Integrity – Message integrity to ensure that a packet has not been tampered with in transit including an optional packet replay protection mechanism.
- Authentication – To verify that the message is from a valid source.

To enable the SNMP v3 protocol, enter the appropriate data and passwords requested:

- *Enable SNMP v3* – Select the checkbox.
- *Security Name* – See note below.
- *Authentication Type* – Select MD5 or SHA from the drop-down menu. See note below.
- *Authentication Password* – See note below.
- *Encryption Type* – either DES or AES. See note below.
- *Encryption Password* – See note below.



Note:

You may have to consult with your System Administrator to activate this function.

Traps for SNMP v1/v2/v3

Traps are used by the camera to send messages to a management system for important events or status changes.

- *Enable traps* – Check this box to activate trap reporting.
 - *Trap address* – Enter the IP address of the management server.
 - *Trap community* – Enter the community to use when sending a trap message to the management system. The default value is *public*.
- *Trap Option*
 - *Warm start* – A warm start SNMP trap signifies that the SNMP device, such as the camera, performs a software reload.

Click **Save** when complete.

7.3.3.4 UPnP

The UPnP Setting page enables the Universal Plug-and-Play protocol on your network devices.

The screenshot shows the dvitel web interface. At the top, there are tabs for Home, System, Streaming, PTZ, and Logout. On the left, a sidebar menu lists various system settings: System, Security, Network, Basic, QoS, SNMP, UPnP (highlighted with a red border), DDNS, Mail, FTP, HTTP, Application, Motion detection, Network failure detection, Storage management, Recording, Schedule, File location, View information, Factory default, and Software version. The main content area is titled 'UPnP Setting' and contains the following elements:

- A checked checkbox for 'Enable UPnP'.
- An unchecked checkbox for 'Enable UPnP port forwarding'.
- A text field for 'Friendly name' containing the value 'CP-4221-200'.
- A 'Save' button at the bottom right of the settings area.

Figure 44: Network Screen – UPnP Settings

UPnP Settings

- *Enable UPnP* – If UPnP is enabled and a camera is discovered on the LAN, the icon of the connected camera appears in **My Network Places**, allowing direct access, as seen below.

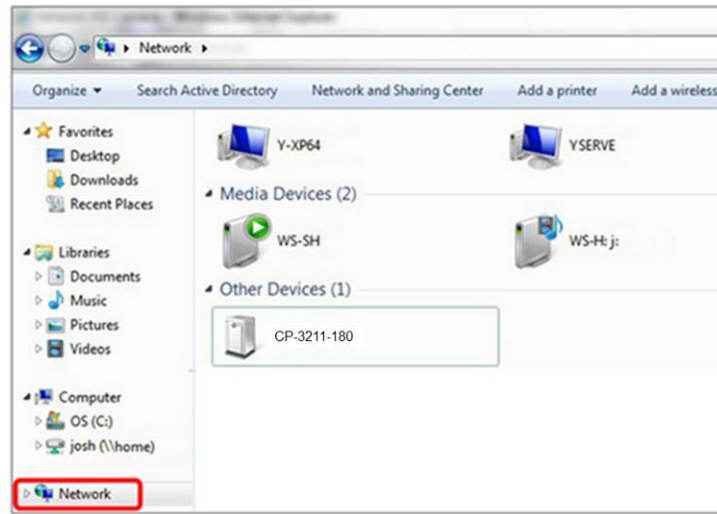


Figure 45: Direct Access to Camera with UPnP Enabled



Note:

To enable this function, make sure the UPnP component is installed on your computer. Refer to [Install UPnP Components](#) for the Windows 7 and Windows 8 procedure.

- *Enable UPnP port forwarding* – When UPnP port forwarding is enabled, the camera is allowed to open the web server port on the router automatically.



Note:

To enable this function, make sure that your router supports UPnP and that it is activated.

- *Friendly name* – Set the name for the camera for identification.

Click **Save** to save the settings.

7.3.4 DDNS

Dynamic Domain Name System (DDNS) allows a host name to be constantly synchronized with a dynamic IP address. This permits those using a dynamic IP address to be accessed by a static domain name.

The screenshot displays the dvtel web interface for configuring DDNS. The top navigation bar includes links for Home, System, Streaming, PTZ, and Logout. The left sidebar lists various system settings, with 'DDNS' highlighted. The main content area is titled 'DDNS' and contains the following elements:

- Dynamic DNS**
Use Dynamic DNS If You Want To Use Your DDNS Account.
- ☐ Enable DDNS
- Provider: DynDNS.org(Dynamic) (dropdown menu)
- Host name: (text input field)
- Username/E-mail: (text input field)
- Password/Key: (text input field)
- Save (button)

Figure 46: DDNS Screen

Enable DDNS

Check this box to enable DDNS.

- *Provider* – Select a DDNS host provider name from the drop-down menu.
- *Host name* – Enter the registered domain name in the field.
- *Username/E-mail* – Enter the username or e-mail address required by the DDNS provider for authentication.
- *Password/Key* – Enter the password or key required by the DDNS provider for authentication.

Click **Save** to save the setting.

7.3.5 Mail

The Administrator can send an e-mail via Simple Mail Transfer Protocol (SMTP) when an alarm is triggered. SMTP is a protocol for sending e-mail messages between servers. SMTP is a relatively simple, text-based protocol, where one or more recipients of a message are specified and the message text is transferred.

Two SMTP server accounts can be configured. Settings include SMTP Server, account name, password, and e-mail address settings. Enter the details in the appropriate fields. For SMTP server details, contact your network service provider. Click **Save** when finished. The following screen shows the SMTP configuration.

The screenshot shows the 'Mail' configuration page in the dvitel web interface. The left sidebar contains a menu with the following items: System, Security, Network, DDNS, Mail (highlighted with a red box), FTP, HTTP, Application, Motion detection, Network failure detection, Storage management, Recording, Schedule, File location, View information, Factory default, Software version, Software upgrade, and Maintenance. The main content area is titled 'Mail' and contains the 'SMTP' configuration section. It includes fields for the 1st and 2nd SMTP (mail) servers, their respective ports (both set to 25), account names, passwords, and recipient email addresses. There are also checkboxes for '1st SMTP SSL' and '2nd SMTP SSL'. A 'Sender email address' field is located at the bottom. A 'Save' button is positioned at the bottom right of the configuration area.

Figure 47: Mail Screen – SMTP

7.3.6 FTP

The Administrator can send an alarm message to one or two File Transfer Protocol (FTP) sites when motion is detected. Settings include first and second server, server port, user name, password, and remote folder. Enter the details in the appropriate fields. Click **Save** when finished. The following screen shows the FTP settings.

The screenshot displays the dvtel web interface for configuring FTP settings. The left sidebar contains a menu with the following items: System, Security, Network, DDNS, Mail, FTP (highlighted with a red border), HTTP, Application, Motion detection, Network failure detection, Storage management, Recording, Schedule, File location, View information, Factory default, Software version, Software upgrade, and Maintenance. The main content area is titled 'FTP' and contains the following fields and options:

- 1st FTP server: [Text input field]
- 1st FTP server port: [Text input field with value 21]
- 1st FTP user name: [Text input field]
- 1st FTP password: [Text input field]
- 1st FTP remote folder: [Text input field]
- ☐ 1st FTP passive mode
- 2nd FTP server: [Text input field]
- 2nd FTP server port: [Text input field with value 21]
- 2nd FTP user name: [Text input field]
- 2nd FTP password: [Text input field]
- 2nd FTP remote folder: [Text input field]
- ☐ 2nd FTP passive mode
- [Save button]

Figure 48: FTP Screen

7.3.7 HTTP

An HTTP notification server detects notification messages of triggered events sent from cameras. Two notification server accounts (Alarm Triggered and Motion Detection) can be set up and sent to the specified HTTP servers. Enter the HTTP details, including server, user name, and password, in the appropriate fields. Click **Save** when finished. The settings are displayed in the **HTTP** screen below.

HTTP	
1st HTTP server	<input type="text"/>
1st HTTP user name	<input type="text"/>
1st HTTP password	<input type="password"/>
2nd HTTP server	<input type="text"/>
2nd HTTP user name	<input type="text"/>
2nd HTTP password	<input type="password"/>
<input type="button" value="Save"/>	

Figure 49: HTTP Screen

Refer to *Send HTTP notification* and *Motion Detection* for HTTP notification settings in the Application section below.

7.3.8 Application

The **Application** screen enables control over the input and output alarms. If, for example, an event is recognized by the system, an input or output alarm and message is generated.

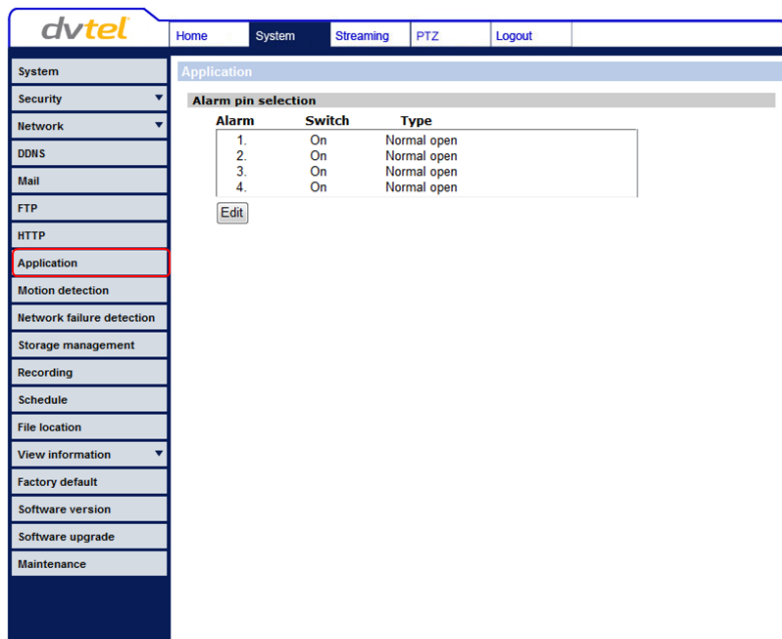


Figure 50: Application Screen

The alarm input and output connectors are shown in the table below.

Table 10: Input/Output Alarm connections

Pin	Definition	Alarm Connector
1	ALARM_OUT_NO_1	
2	ALARM_OUT_NC_1	
3	ALARM_OUT_COM_1	
4	GND	
5	ALARM_OUT_NO_2	
6	ALARM_OUT_NC_2	
7	ALARM_OUT_COM_2	
8	GND	
9	ALARM_IN_4	
10	ALARM_IN_3	
11	ALARM_IN_2	
12	ALARM_IN_1	

To configure an alarm:

1. From the *Alarm pin selection* list, select an alarm.
2. Click **Edit**.

The screenshot shows the dvitel web interface. The left sidebar has a menu with 'Application' highlighted. The main content area is titled 'Application' and contains two sections: 'Alarm pin selection' and 'Alarm pin1 status'.

Alarm pin selection

Alarm	Switch	Type
1.	On	Normal open
2.	On	Normal open
3.	On	Normal open
4.	On	Normal open

Below the table is an 'Edit' button.

Alarm pin1 status

Alarm setting

Alarm switch: On (dropdown) Alarm type: Normal open (dropdown)

Triggered action

☐ Enable alarm output 1 ☐ Enable alarm output 2
☐ Send message by FTP ☐ Send message by E-Mail
☐ Upload image by FTP ☐ Upload image by E-Mail
☐ PTZ Function ☐ Send HTTP notification
☐ Record stream to sd card

File name

File name : image.jpg

☒ Add date/time suffix
☐ Add sequence number suffix (no maximum value)
☐ Add sequence number suffix up to 0 and then start over
☐ Overwrite

Save button

Figure 51: Application Screen – Alarm Pin Selection

3. Configure the alarm according to the functions described below.

Alarm Switch

The Administrator can enable or disable the alarm function (*Off/On*) or select a schedule.

To select a schedule:

1. Select *By schedule*. The message *Please Select* is displayed.

This screenshot is similar to Figure 51, but the 'Alarm switch' dropdown is set to 'By schedule'. Below the dropdown, a 'Please select...' dropdown is shown with 'On' selected. The 'Triggered action' section is also visible.

Alarm pin selection

Alarm	Switch	Type
1.	On	Normal open
2.	On	Normal open
3.	On	Normal open
4.	On	Normal open

Below the table is an 'Edit' button.

Alarm pin1 status

Alarm setting

Alarm switch: By schedule (dropdown) Alarm type: Normal open (dropdown)

Please select: On (dropdown)

Triggered action

☐ Enable alarm output 1 ☐ Enable alarm output 2
☐ Send message by FTP ☐ Send message by E-Mail
☐ Upload image by FTP ☐ Upload image by E-Mail
☐ PTZ Function ☐ Send HTTP notification
☐ Record stream to sd card

File name

File name : image.jpg

☒ Add date/time suffix
☐ Add sequence number suffix (no maximum value)
☐ Add sequence number suffix up to 0 and then start over
☐ Overwrite

Save button

Figure 52: Application Screen – By Schedule

2. Click *Please Select*. A drop-down menu opens.
3. From the drop-down menu, select a schedule from 1 to 10. The selected schedules are displayed in a horizontal field above the drop-down menu.

The screenshot shows the dvitel web interface. The left sidebar contains a menu with options: System, Security, Network, DDNS, Mail, FTP, HTTP, Application (highlighted), Motion detection, Network failure detection, Storage management, Recording, Schedule, File location, View information, Factory default, Software version, Software upgrade, and Maintenance. The main content area is titled 'Application' and contains two sections: 'Alarm pin selection' and 'Alarm pin1 status'.

Alarm pin selection

Alarm	Switch	Type
1	On	Normal open
2	On	Normal open
3	On	Normal open
4	On	Normal open

Alarm pin1 status

Alarm setting

Alarm switch: **By schedule** (selected from a dropdown menu)

Alarm type: Normal open (selected from a dropdown menu)

Triggered action

- ☒ Schedule 1
- ☒ Schedule 2
- ☒ Schedule 3
- ☒ Schedule 4
- ☒ Schedule 5
- ☐ Schedule 6
- ☐ Schedule 7
- ☐ Schedule 8
- ☐ Schedule 9
- ☐ Schedule 10

Other options on the right:

- ☐ Enable alarm output 2
- ☐ Send message by E-Mail
- ☐ Upload image by E-Mail
- ☐ Send HTTP notification

At the bottom, there is a 'Save' button and a section for 'Add sequence number suffix up to 0 and then start over' with an 'Overwrite' radio button.

Figure 53: Application Screen – Drop-Down Menu Schedule Selection

Alarm Type

Select an alarm type (*Normal close* or *Normal open*) that corresponds to the alarm application.

Alarm Output

Define the normal alarm output signal as *Normal Close* or *Normal Open*, according to the current alarm application.



Note:

In the Application option, the **Schedule** function is activated from the **Alarm Switch** (see figures below). See [Schedule](#).

Triggered Action

The Administrator can specify various alarm actions to be taken when an alarm is triggered. The options are listed below.

- *Enable Alarm Output 1/Enable Alarm Output 2* – Select these boxes to enable alarm relay outputs.
- *Record stream to sd card* – Select this box in order to save the alarm-triggered recording into a microSD/SDHC card. Enter the number of seconds for the pre-trigger buffer. Select the first radial button to upload for a specified length of time and enter the number of seconds. Alternatively, select the second radial button to upload during the active trigger.

The screenshot shows the 'Application' configuration page in the dvtel web interface. The left sidebar contains a menu with 'Application' highlighted. The main content area is titled 'Application' and includes an 'Alarm pin selection' table with 4 rows, all with 'On' switches and 'Normal open' types. Below this is the 'Alarm pin1 status' section. Under 'Alarm setting', the 'Alarm switch' is 'On' and 'Alarm type' is 'Normal open'. The 'Triggered action' section has several checkboxes: 'Enable alarm output 1', 'Enable alarm output 2', 'Send message by FTP', 'Send message by E-Mail', 'Upload image by FTP', 'Upload image by E-Mail', 'PTZ Function', and 'Send HTTP notification'. The 'Record stream to sd card' checkbox is checked and highlighted with a red box. Below it, the 'Pre-trigger buffer' is set to '1' sec. Two radio buttons are present: 'Upload for 1 sec' (selected and highlighted with a red box) and 'Upload during the trigger active'. The 'File name' section includes a text field 'image.jpg' and several options: 'Add date/time suffix' (selected), 'Add sequence number suffix (no maximum value)', 'Add sequence number suffix up to 0 and then start over', and 'Overwrite'.

Figure 54: Application – Record Stream to SD Card



Note:

Make sure the local recording (with a microSD/SDHC card) is activated so that this function can be implemented. See [Recording](#) for further details.

- *Send Alarm Message by FTP/E-Mail* – The Administrator can select whether to send an alarm message by FTP and/or e-mail when tampering is detected.

- **Upload Image by FTP** – Selecting this option enables you to assign an FTP site and configure various parameters, as seen below.

The screenshot shows the 'Application' configuration page in the dvitel web interface. The left sidebar lists various system settings, with 'Application' highlighted. The main content area is divided into sections: 'Alarm pin selection', 'Alarm pin1 status', and 'Alarm setting'. Under 'Alarm setting', the 'Triggered action' section is expanded, and the 'Upload image by FTP' option is selected and highlighted with a red box. The configuration parameters for this option are: FTP address (FTP1), Pre-trigger buffer (5 frames), Post-trigger buffer (5 frames), and Image Frequency (Max fps). Other options like 'Continue image upload', 'Upload for 1 sec', and 'Upload during trigger active' are also visible.

Figure 55: Application – Upload Image by FTP

When tampering is detected, event images will be uploaded to the designated FTP site. Specify the FTP address to use from the drop-down menu. Select the number of frames for the pre-trigger and post-trigger buffers from the drop-down menu of 1-20 frames.

Check the box for *Continue image upload* if you wish to use this option. To specify the length of time for the upload, click on this radial button and enter the number of seconds. To upload during the active trigger, click on this radial button. Finally, select the number of frames per second from the drop-down menu next to *Image Frequency*.

- **Upload Image by E-Mail** – Selecting this option enables you to assign an e-mail address and configure various parameters, as shown below.

The screenshot shows the 'Application' configuration page in the dvitel web interface. The left sidebar lists various system settings, with 'Application' highlighted. The main content area is divided into sections: 'Alarm pin selection', 'Alarm pin1 status', and 'Alarm setting'. Under 'Alarm setting', the 'Triggered action' section is expanded, and the 'Upload image by E-Mail' option is selected and highlighted with a red box. The configuration parameters for this option are: E-Mail address (E-Mail 1), Pre-trigger buffer (5 frames), Post-trigger buffer (5 frames), and Image Frequency (Max fps). Other options like 'Continue image upload', 'Upload for 1 sec', and 'Upload during trigger active' are also visible.

Figure 56: Application – Upload Image by E-Mail

When tampering is detected, event images will be sent to the designated e-mail address. Specify two e-mail addresses to use from the drop-down menu. Select the number of frames for the pre-trigger and post-trigger buffers from the drop-down menu of 1-20 frames.

Check the box for *Continue image upload* if you wish to use this option. To specify the length of time for the upload, click on this radial button and enter the number of seconds. To upload during the active trigger, click on this radial button. Finally, select the number of frames per second from the drop-down menu next to *Image Frequency*.

**Note:**

Make sure SMTP or FTP configuration has been completed. See [Mail](#) and [FTP](#) for further details.

- o *PTZ Function* – Check this box to specify the parameters which can be activated from this screen. From the drop-down menu, select the *Preset*, *Sequence*, *Auto pan* or *Pattern*.
- From the *Function Line* text box, enter one of the actions that is displayed in the **Preset Position** screen, **Sequence set** screen, **Pattern** screen or **Auto Pan** screen.

Figure 57: Application – PTZ Parameters

- o *Preset* – A Preset position is a predefined camera view that is composed of the camera's pan, tilt, zoom, and focus settings. Each preset position is numbered and enables an operator to quickly jump to that specific position in a live view. The camera also can be programmed to go to a specified preset position in a certain order and time interval.

Upon selecting *Preset*, the following option is displayed:

- *Dwell time* – The dwell time is the duration time that the camera remains at a Preset point. The camera goes to the next Preset point when the dwell time expires.

- o *Sequence* – A sequence executes pre-positioning of the pan, tilt, zoom and focus functions in a pre-defined order. At least two preset positions must be defined: one is the starting position and one is the ending position. If a camera is offline, the tour skips that camera and the next online camera in the sequence displays live video.
- o *Autopan* – An Auto pan is a scan of an area horizontally from left to right or right to left at a user-defined speed.
- o *Pattern* – A Pattern is a stored route defined through manual adjustment of pan, tilt, and zoom.
- *Send HTTP notification* – Check this box to specify the destination HTTP address and parameters for event notifications by the triggered alarm. When an alarm is triggered, the notification will be sent to one of two specified HTTP servers. See figure below.

The screenshot shows the dvtel web interface with the 'Application' tab selected. The 'Alarm pin selection' table is visible, showing four pins with 'On' switches and 'Normal open' types. The 'Alarm pin1 status' section shows 'Alarm switch' set to 'On' and 'Alarm type' set to 'Normal open'. The 'Triggered action' section has several checkboxes, with 'Send HTTP notification' checked and highlighted by a red box. Below this, the 'HTTP address' is set to 'HTTP 1' and 'Custom parameters' is empty. The 'File name' section shows 'File name : image.jpg' and three radio button options for suffixes: 'Add date/time suffix' (selected), 'Add sequence number suffix (no maximum value)', and 'Add sequence number suffix (limited value)'.

Figure 58: Application – Send HTTP Notification

File Name

- *File Name* – Enter a file name in the field, for example *image.jpg*. The uploaded image's file name format is set in this section. Select one that meets your requirements.
 - o Add date/time suffix
File name: imageYYMMDD_HHNNSS_XX.jpg
Y: Year, M: Month, D: Day
H: Hour, N: Minute, S: Second
X: Sequence Number
 - o Add sequence number suffix (no maximum value)
File name: imageXXXXXXX.jpg
X: Sequence Number
 - o Add sequence number suffix (limited value)
File Name: imageXX.jpg
X: Sequence Number

The file name suffix ends at the number being set. For example, if the setting is up to "10," the file name will start from 00, end at 10, and then start over again.

- o Overwrite

The original image in the FTP site will be overwritten by the new uploaded file with a static filename.

After entering all the settings, click **Save**.

7.3.9 Motion Detection

The motion detection function detects suspicious motion and triggers alarms when motion volume in the detected area reaches/exceeds the determined sensitivity threshold value.

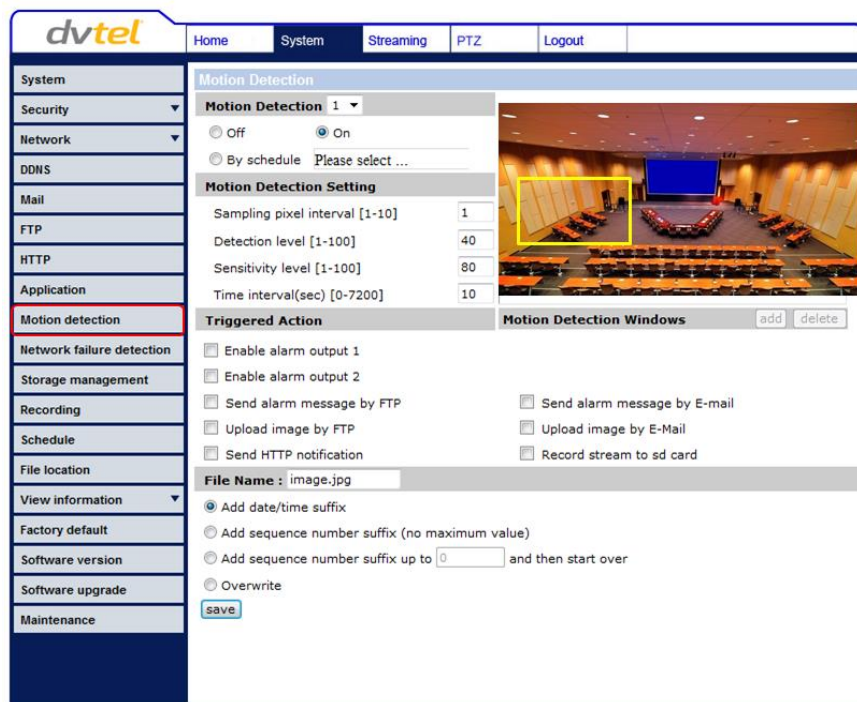


Figure 59: Motion Detection Screen

Within the Live View pane on the **Motion Detection** screen, there is a frame (**Motion Detection window**) which is used for defining the motion detection area. To change the size of the **Motion Detection** window, move the mouse cursor to the edge of the frame and drag it outward/inward. Moving the mouse to the center of the frame shifts the frame to the intended location.

Motion Detection Activation

It is possible to define up to four motion detection zones within the **Motion Detection** window by selecting a number from the drop-down menu.

The motion detection function may be turned on or off in the *Motion Detection* section of the screen. The default setting is *Off*. Alternatively, you may select *By schedule* to set a schedule.

To select a schedule:

1. Select *By schedule*. The message *Please Select* is displayed.
2. Click *Please select*. A drop-down menu opens.
3. From the drop-down menu, select a schedule from 1 to 10. The selected schedules are displayed in a horizontal field above the drop-down menu.

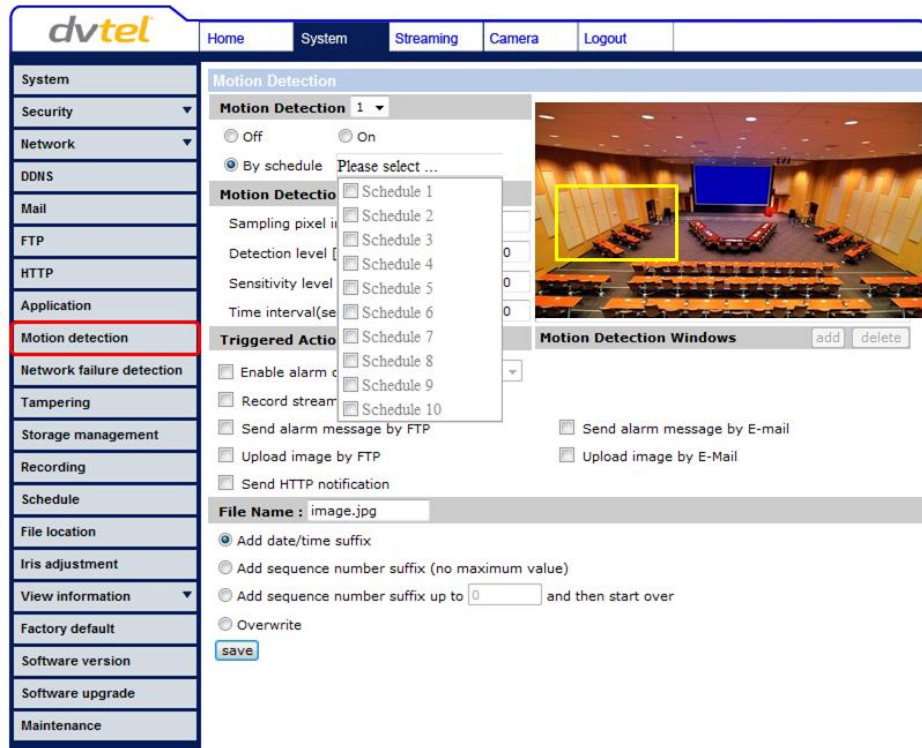


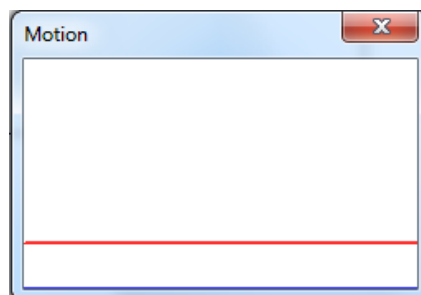
Figure 60: Motion Detection Screen – with Schedule Drop-Down Menu

For instructions how to set a schedule for network failure detection, refer to [Schedule](#).

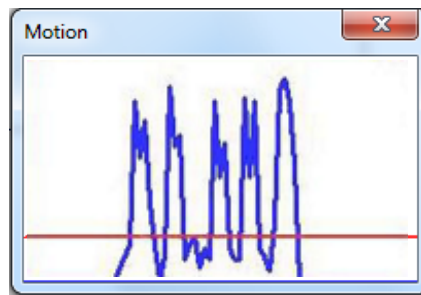
Motion Detection Windows

Up to 10 **Motion Detection** windows can be set. Press the **add** button under the Live View pane to add a **Motion Detection** window. To cancel a **Motion Detection** window, move the mouse cursor to the selected window and click **delete**.

If the motion detection function is activated, the following **Motion** pop-up window appears.

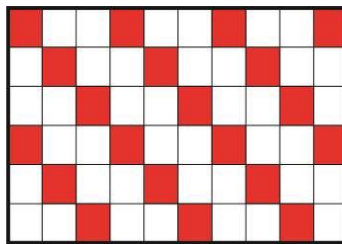


When motion is detected, the signals are displayed in the **Motion** window shown below.



Detailed settings for motion detection are as follows:

- *Sampling pixel interval [1-10]* – Select a number from 1-10. The default value is 1. If the value is set as 3, within the detection region, the system will take one sampling pixel for every 3 pixels by each row and each column (see the figure below).



- *Detection level [1-100]* – Select a number from 1-100. The default level is 40. This sets detection level for each sampling pixel; the smaller the value, the more sensitive it is.
- *Sensitivity level [1-100]* – Select a number from 1-100. The default level is 80, which means if 20% or more sampling pixels are detected differently, the system will detect motion. The bigger the value, the more sensitive it is. When the value is bigger, the red horizontal line in the motion indication window will be lowered accordingly.
- *Time interval (sec) [0-7200]* – Select a number from 0-7200 (seconds). The default interval is 10. The value is the interval between each detected motion.

Triggered Action

The Administrator can specify alarm actions to be taken when motion is detected. See Figure 59: Motion Detection Screen. The options are listed as follows:

- *Enable alarm output* – Check this box and select the predefined type of alarm output (low or high) to enable alarm relay when tampering is detected.
- *Record stream to sd card* – Select this box to store the motion detection alarm recording in a microSD/SDHC card when tampering is detected. Enter the number of seconds for the pre-trigger buffer. Select the first radial button to upload for a specified length of time and enter the number of seconds. Alternatively, select the second radial button to upload during the active trigger. See figure below.

Figure 61: Record Stream to SD Card Option

**Note:**

Make sure the local recording (with Micro SD/SDHC card) is activated so that this function can be implemented. See [Recording](#) for further details.

- *Send Message by FTP/E-Mail* – Select whether to send an alarm message by FTP and/or e-mail when motion is detected.
- *Upload Image by FTP* – Select this box in order to upload an image to a designated FTP site when motion is detected according to various parameters, as seen the figure below. Specify the FTP address to use from the drop-down menu. Select the number of frames for the pre-trigger and post-trigger buffers from the drop-down menu of 1-20 frames.

Figure 62: Upload Image by FTP Option

Check the box for *Continue image upload* if you wish to use this option. To specify the length of time for the upload, click on this radial button and enter the number of seconds. To upload during the active trigger, click on this radial button. Finally, select the number of frames per second from the drop-down menu next to *Image Frequency*.

- *Upload Image by E-Mail* – Select this box in order to assign an e-mail address and configure various parameters, as seen in the figure below. When motion is detected, event images are sent to one of two designated e-mail addresses. Select the number of frames for the pre-trigger and post-trigger buffers from the drop-down menu of 1-20 frames.

Figure 63: Upload Image by E-Mail Option

Check the box for *Continue image upload* to use this option. To specify the length of time for the upload, click on this radial button and enter the number of seconds. To upload during the active trigger, click on this radial button. Finally, select the number of frames per second from the drop-down menu next to *Image Frequency*.

**Note:**

Make sure that SMTP or FTP configuration has been completed. See [Mail](#) and [FTP](#) for further details.

- **Send HTTP notification** – Check this box to send a notification by HTTP. Select the destination HTTP address from the drop-down menu and specify the parameters for event notifications by motion detection triggered. When an alarm is triggered, the notification will be sent to one of two specified HTTP servers. See figure below.

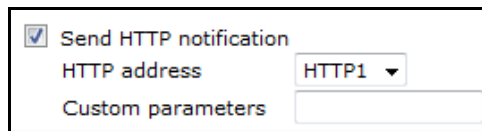


Figure 64: Send HTTP Notification Option

**Note:**

Make sure that local recording (with a microSD/SDHC card) is activated so that this function can be implemented. See [Recording](#) for further details.

File Name

The uploaded image's filename format is set in this section. Select one that meets your requirements.

Save

Click the **Save** button to save the motion detection settings.

7.3.10 Network Failure Detection

The network failure detection function allows the IP camera to periodically ping another IP device within the network to detect a network failure, for example, if a video server is disconnected. By implementing local recording (through a microSD/SDHC card) if a network failure occurs, the camera can operate as a backup recording device for the surveillance system.

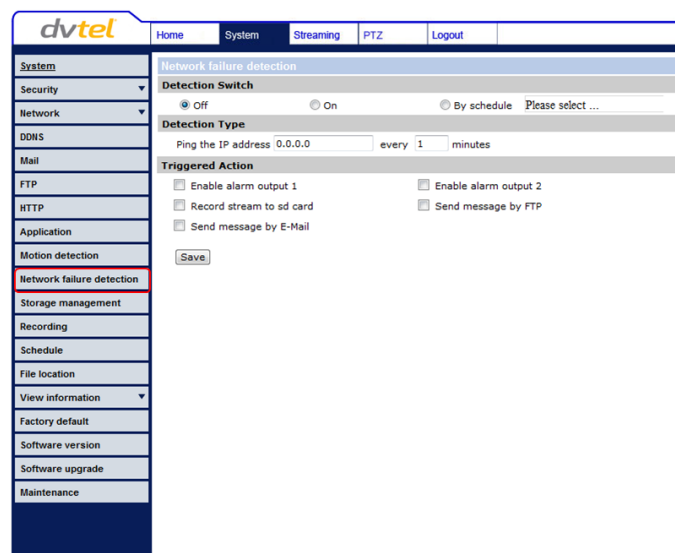


Figure 65: Network Failure Detection Screen

Detection Switch

The Administrator can enable or disable the detection function by selecting *On* or *Off*, or select *By schedule* to set a schedule.

To select a schedule:

1. Select *By schedule*. The message *Please Select* is displayed.
2. Click *Please select*. A drop-down menu opens.
3. From the drop-down menu, select a schedule from 1 to 10. The selected schedules are displayed in a horizontal field above the drop-down menu.

For instructions how to set a schedule for network failure detection, refer to [Schedule](#).

Detection Type

In the text box, enter the IP address to ping and the time interval in minutes between pings.

Triggered Action

The Administrator can specify various alarm actions to be taken when an alarm is triggered. The options are listed below.

- *Enable alarm output 1/Enable alarm output 2* – Select these boxes to enable alarm relay outputs.
- *Record stream to sd card* – Select this box in order to save the alarm-triggered recording into a microSD/SDHC card. Enter the number of seconds for the pre-trigger buffer. Select the first radial button to upload for a specified length of time and enter the number of seconds. Alternatively, select the second radial button to upload during the active trigger.

The screenshot shows the 'Network failure detection' configuration page. The left sidebar contains a menu with items like System, Security, Network, DDNS, Mail, FTP, HTTP, Application, Motion detection, Network failure detection (highlighted), Storage management, Recording, Schedule, File location, View information, Factory default, Software version, Software upgrade, and Maintenance. The main content area has tabs for Home, System, Streaming, PTZ, and Logout. Under the 'System' tab, the 'Network failure detection' section is active. It includes a 'Detection Switch' with radio buttons for Off, On, and By schedule (selected). Below this is the 'Detection Type' section with a text box for 'Ping the IP address' (0.0.0.0) and a dropdown for 'every' (1) minutes. The 'Triggered Action' section contains several checkboxes: 'Enable alarm output 1', 'Enable alarm output 2', 'Record stream to sd card' (checked), 'Send message by FTP', and 'Send message by E-Mail'. The 'Record stream to sd card' section has a 'Pre-trigger buffer' of 1 sec and two radio buttons: 'Upload for 1 sec' (selected) and 'Upload during the trigger active'. A 'Save' button is located at the bottom of the configuration area.

Figure 66: Network Failure Detection Screen – Triggered Action

**Note:**

Make sure the local recording (with microSD/SDHC card) is activated so that this function can be implemented. See [Recording](#) for further details.

- *Send Message by FTP/E-Mail* – Select whether to send an alarm message by FTP and/or e-mail when motion is detected.

Save

Click **Save** to save the network failure detection settings.

7.3.11 Storage Management

You can locally record up to 32GB on a microSD/SDHC card. The **Storage Management** page shows the capacity information of the card and a recording list of all the recording files saved on the memory card. You can also format the card and implement automatic recording cleanup on this page. To implement microSD/SDHC card recording, see [Recording](#).

**Note:**

Format the microSD/SDHC card when using it for the first time. Formatting is also required when a memory card has been used on one camera and is then transferred to a camera that uses a different software platform.

Figure 67: Storage Management Screen

Device information

Upon inserting the microSD/SDHC card, card information, such as the memory capacity and status, is displayed.

Device setting

Click **Format** to format the memory card.

Disk cleanup setting

Enable automatic recording cleanup by selecting *Enable automatic disk cleanup*. From the pull-down menu, specify the minimum length of time over which to remove recordings. For example, remove recordings over 10 days old. Enter the percent of disk capacity used in order to remove the oldest recordings. Click **Save** when finished.

Recording List

Each video file on the microSD/SDHC card is listed in the Recording list below. The maximum file size is 60 MB per file. See [Recording](#) for further details.

When the recording mode is set as *Always* (consecutive recording) and the microSD/SDHC card recording is enabled by events triggered, the system immediately saves a recorded event on the memory card once an event occurs. Then the camera will return to the regular recording mode after events recording.

Recording list	
FileName	Size
M_20100514_142625.avi	3783 KB
M_20100514_142637.avi	3542 KB
M_20100514_142648.avi	3873 KB
M_20100514_153014.avi	4357 KB
R_20070103_172925.avi	49634 KB
<div> <input type="button" value="Remove"/> <input type="button" value="Sort"/> <input type="button" value="download"/> </div>	

Figure 68: Video File Recording List

- **Remove** – To remove a file, first select the file and then click **Remove**.
- **Sort** – Click **Sort** to list the files in the Recording list in order of name and date.



Note:

The capital letters: R, N, A, (A0), M, (M0) followed by an underscore, appear at the beginning of the file name. They denote the type of recording.

- R - Regular (always or schedule)
- N - Network failure
- M - Motion, (M0 refers to the first motion window trigger)
- A - Alarm (A0 refers to the first alarm trigger input).

- **Download** – To open/download a video clip, first select the file and then click **download**. The selected file window pops up as shown below. Click on the AVI file to play the video in the player or download it to a specified location.



Figure 69: Selected File Window

7.3.12 Recording

In the **Recording** screen, specify the recording schedule. Select one of three options:

- **Disable** – Disable this function
- **Always** – Always use this function
- **Only during time frame** – Records only during a specified time frame

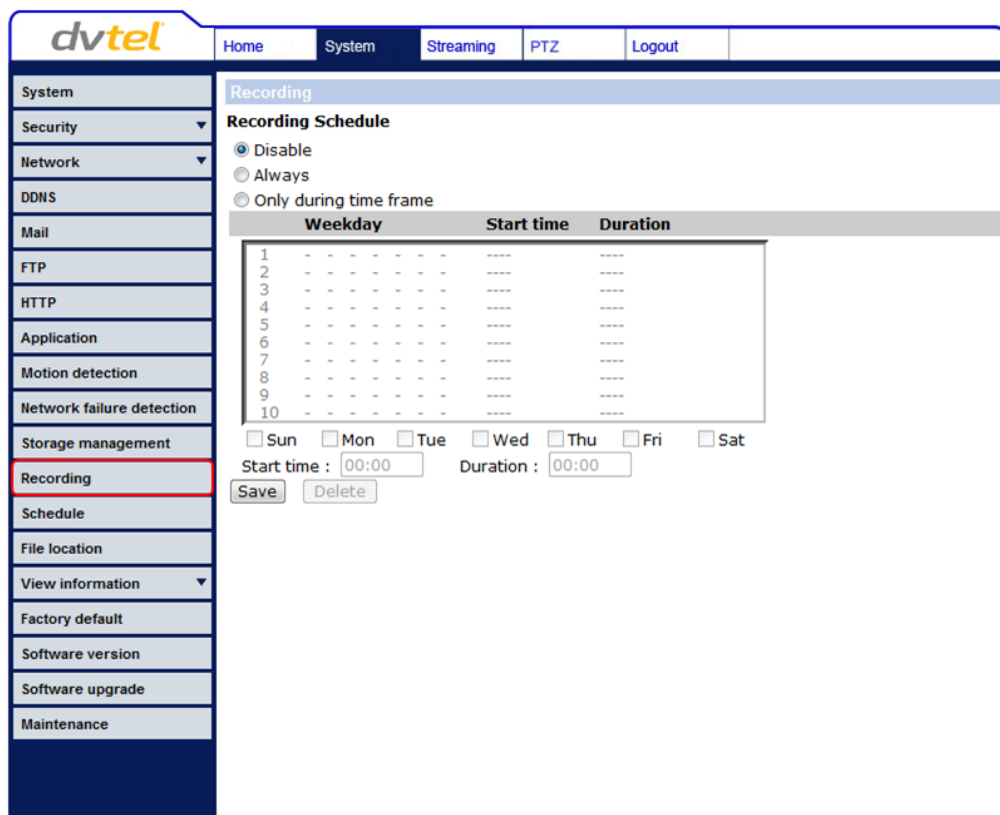


Figure 70: Recording Screen

Activating microSD/SDHC card recording

Two types of schedule mode are available: *Always* and *Time Frame setting*. You can setup the time frame to fit the recording schedule by selecting the day(s), start time and duration for recording. Choosing *Always* activates the microSD/SDHC card recording all the time. Click **Save** to confirm the schedule mode.

Terminating microSD/SDHC card recording

Select *Disable* to terminate the recording function.



Note:

This option works only if the microSD/SDHC card is installed in the camera.

7.3.13 Schedule

The **Schedule** screen is used by the network failure detection, tampering and motion detection functions. To access the schedule function, open the **Main** window, select the **System** tab, and click on the **Schedule** tab. The functions in this tab allow administrators to create customized schedules for the camera using this option. If a schedule exists, the administrator can apply that schedule to this camera using the available dropdown. See figure below.

Weekday	Start time	Duration
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
9	-	-
10	-	-

☐ Sun
 ☐ Mon
 ☒ Tue
 ☐ Wed
 ☐ Thu
 ☐ Fri
 ☐ Sat

Start time : 00:00 Duration : 00:00

Save Delete

Figure 71: Schedule Screen



Note:

This application is not the same as the Recording Schedule function.

To create a new schedule or edit an existing schedule:

1. Click on the appropriate checkboxes relating to the days of the week (Sun, Mon, Tue, Wed, Thu, Fri and Sat) to create a schedule. Tuesday (Tue) is checked in the example.
2. Set *Start time* (for example, 09:00) and *Duration* (for example, 4:00 hours).
3. Click **Save** to apply the newly created schedule to the camera.

Removing Schedules

1. To remove a schedule, select the setup data line by line.
2. Click **Delete** to remove the schedule.

7.3.14 File Location

From the **File Location** page, specify a storage location for snapshots and web recordings. The default setting is: C:\. After confirming the setting, click **Save** to save the snapshots and recordings in the designated location.

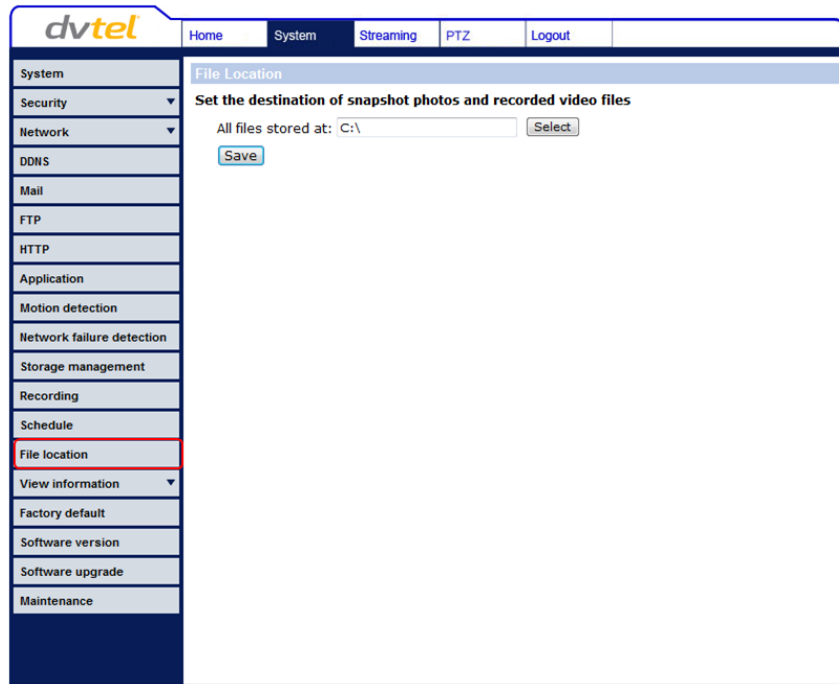


Figure 72: File Location Screen



Note:

Make sure the selected file path contains valid characters.

7.3.15 View Information

Clicking the **View Information** tab in the **System** screen opens a drop-down menu with tabs: **Log File**, **User Information**, and **Parameters**.

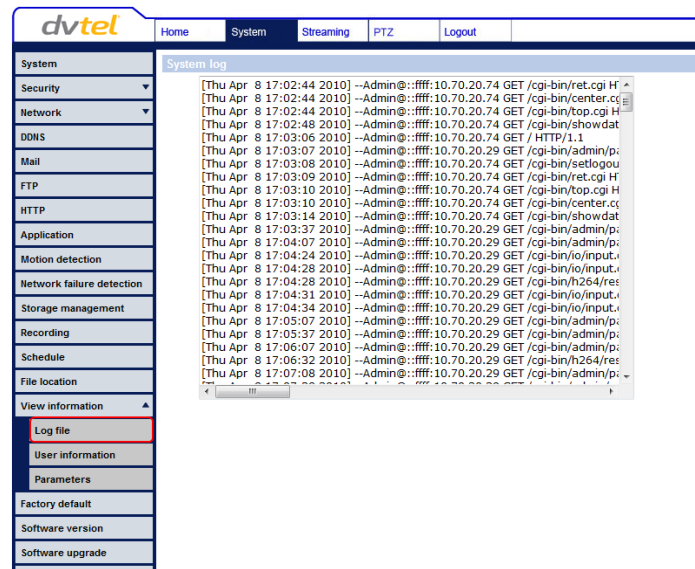


Figure 73: System Log Screen

Related Links

- [Log File](#)
- [User Information](#)
- [Parameters](#)

7.3.15.1 View Log File

Click **Log file** to view the system log file. The content of the file provides information about connections after system boot-up. See Figure 73: System Log Screen.

7.3.15.2 User Information

The Administrator can view each user's login information and privileges in the **User information** screen shown below.

View User Login Information

Click **get user information** to see each user's details. For example: *Admin: 1234*. This indicates that the user's login username is *Admin* and the password is *1234*.

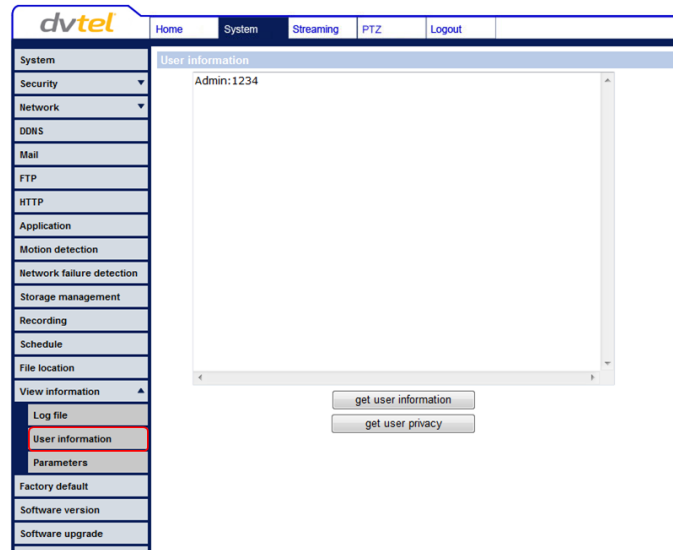


Figure 74: User Information Screen

View User Privilege

Click **get user privacy** to view each user's privileges.

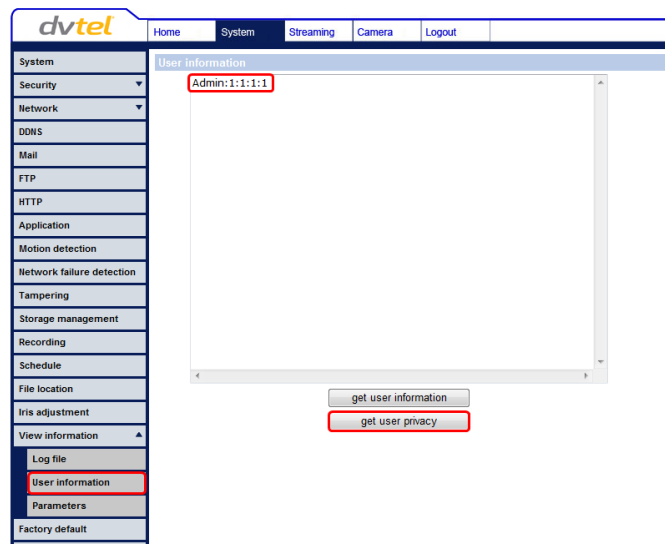


Figure 75: User Information – Privileges Screen

In the screen above, the user *Admin* is granted privileges of I/O access, Camera control, Talk and Listen.

<input checked="" type="checkbox"/> I/O access	<input checked="" type="checkbox"/> Camera control
<input checked="" type="checkbox"/> Talk	<input checked="" type="checkbox"/> Listen

**Note:**

The example above shows the maximum privileges that can be granted. It is however, dependent on the specific user security level.

7.3.15.3 Parameters

The **Parameter** screen enables viewing all of the system's parameter settings.

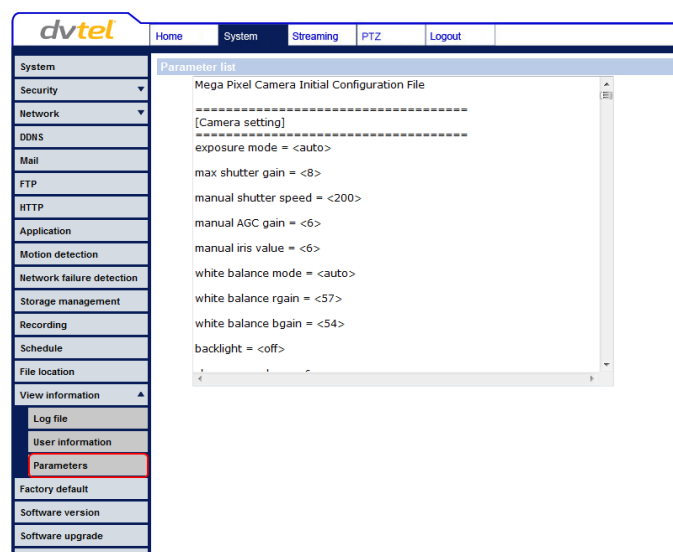


Figure 76: Parameter List Screen

**Note:**

Slide the sidebar located on the right of the screen to view the entire list of parameters.

7.3.16 Factory Default

The **Factory default** setting page is shown below. Follow the instructions to reset the camera to factory default settings if needed.

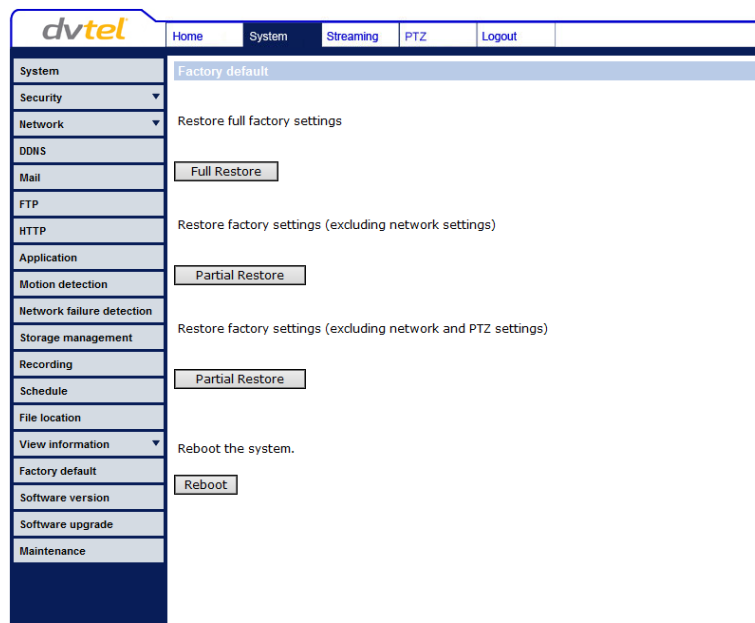


Figure 77: Factory Default Screen

Full Restore

Click **Full Restore** to restore the factory default settings. The system restarts in 30 seconds.



Note:

The IP address and all other settings will be restored to factory default settings.

Partial Restore

There are two **Partial Restore** buttons.

- Click the upper **Partial Restore** button to restore the factory default settings, excluding the network settings.
- Click the lower **Partial Restore** button to restore the factory default settings, excluding the network and PTZ settings.

The system restarts in 30 seconds.

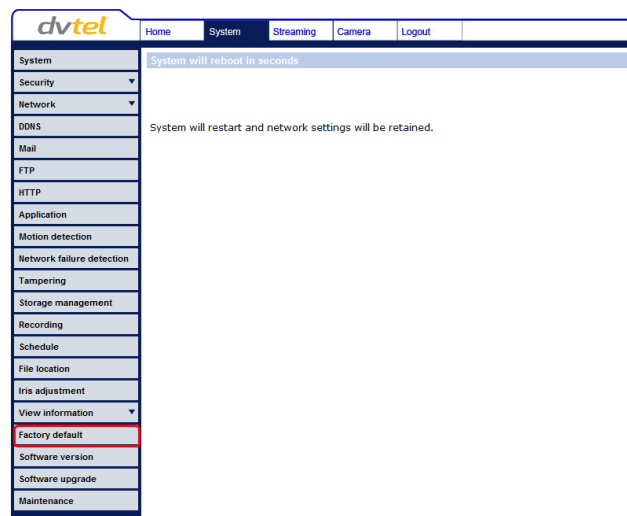


Figure 78: Partial Restore Screen



Warning:

The Partial Restore function resets the system, with the exception of the network and PTZ settings.

Reboot

Clicking **Reboot** restarts the system without changing current settings.

7.3.17 Software Version

The current version of the software is displayed in the **Software version** screen.



Figure 79: Software Version Screen (all units except CP-4221-301)

The CP-4221-301 **Software version** screen includes the DSP firmware version and DSP parameter version numbers.

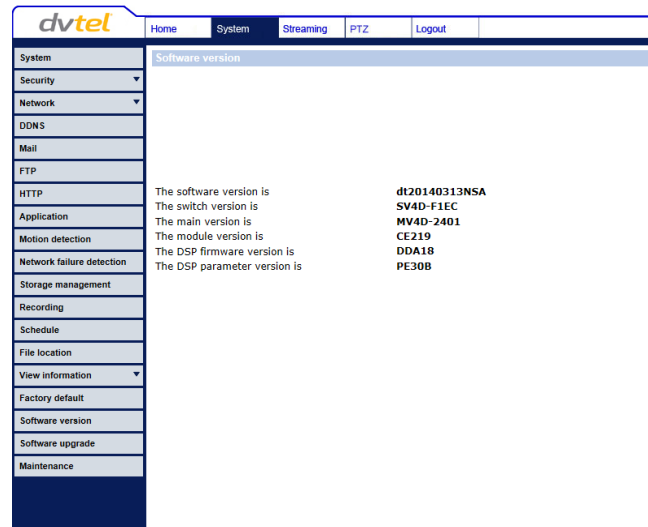


Figure 80: CP-4221-301 Software Version Screen

7.3.18 Software Upgrade

The **Upgrade** screen is shown below.

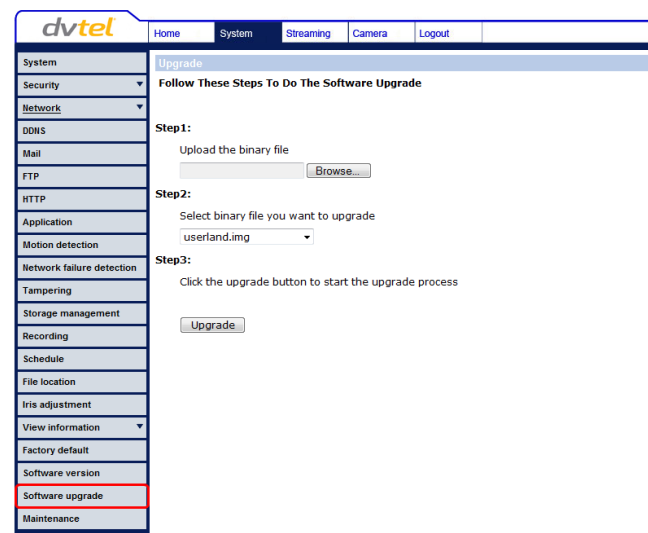


Figure 81: Upgrade Screen



Note:

Verify that the upgrade file is available before performing a software upgrade.

To upgrade the software:

1. In the *Step 1* text box, click **Browse** and select the binary file to be uploaded, for example, *ulimage+userland.img*.



Note:

Do not change the upgrade file name or the system will fail to find the file.

- From the drop-down menu of binary files in *Step 2*, select the file to upgrade. In the above example *ulmage+userland.img* is selected.
- Click **Upgrade**. The system verifies that the upgrade file exists and begins to upload the file. The upgrade status bar is displayed on the page. After the upgrade process has finished, the **Home** page is displayed.

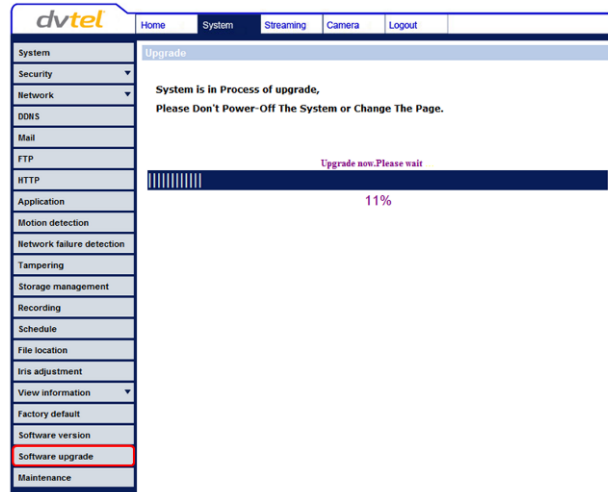


Figure 82: Software Upgrade – In Process

- From the Windows Start menu, select the Control Panel.
- Select Uninstall a Program.
- In the Currently installed programs list, select DCViewer.
- Click **Uninstall** to delete the existing DCViewer.
- Install the new DCViewer ActiveX plug-in.



Warning:

Do not unplug power while upgrading firmware.

7.3.19 Maintenance

You can export configuration files to a specified location and retrieve data by uploading an existing configuration file to the camera.

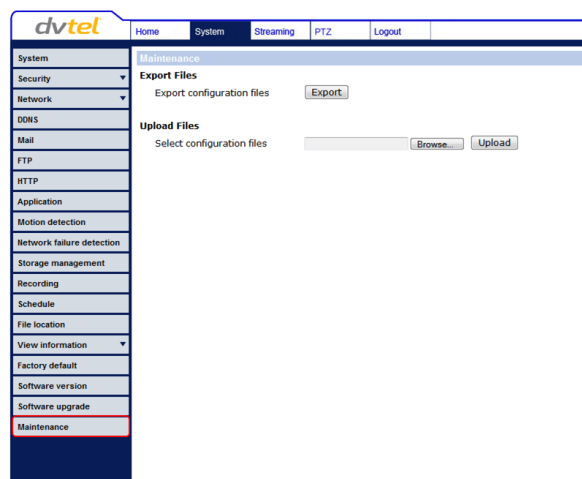


Figure 83: Maintenance Screen

Export

You can save system settings by exporting the configuration file (.bin) to a specified location for future use. Press **Export** and the popup window **File Download** appears as shown below.

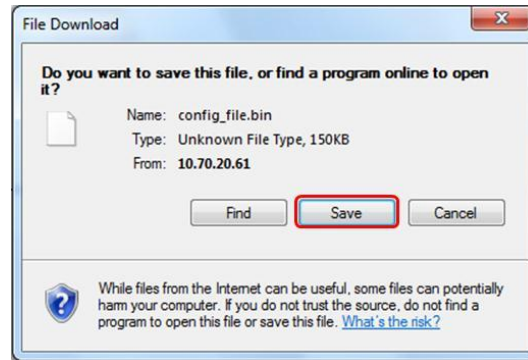


Figure 84: File Download Screen

Click **Save** and specify a location to save the configuration file.



Warning:

Do not unplug power while changing file names.

Upload

To copy an existing configuration file to the camera, click **Browse** to select the configuration file, and then click **Upload** to upload the file.



Warning:

Do not unplug power while changing file names.

7.4 Video and Audio Streaming Settings

Select the **Streaming** tab in the navigation bar at the top of the page to display the configurable video and audio selections in the sidebar. From the Streaming sidebar, the Administrator can configure specific video resolution, video compression mode, video protocol, audio transmission mode, etc. Further details of these settings are specified in the following sections.

The following video resolutions are supported:

- H.264 + H.264
- MJPEG + H.264
- MJPEG only
- H.264 only



Note:

MJPEG is not supported by Latitude.

Related Links

- [Video Format](#)
- [Video Compression](#)
- [Video OCX Protocol](#)
- [Video Frame Rate](#)
- [Audio](#)

7.4.1 Video Format

From the **Video Format** screen, you can configure the following settings:

- [NTSC Video Resolution Settings](#)
- [PAL Video Resolution Settings](#)
- [Text Overlay Settings](#)
- [Video Rotate Type](#)
- [GOV Settings](#)
- [H.264 Profile](#)

The screenshot shows the 'Video Format' configuration page. The left sidebar contains a navigation menu with 'Video Format' selected. The main content area has the following sections:

- Video Resolution :** A dropdown menu set to 'H.264 + H.264'. Below it, 'Format 1' is set to '1920 x 1080 (30 fps)' and 'Format 2' is set to '640 x 480 (30 fps)'. A 'BNC support' field is set to 'N/A'. A 'Save' button is present.
- Note :** A text block stating 'Image attachment by FTP or E-mail will be available only while MJPEG streaming is selected.'
- Text Overlay Settings :** Two checkboxes, 'Include date' and 'Include time', are both checked. Below them is a text input field for 'Include text string:'. A 'Save' button is present.
- Video Rotate Type :** A dropdown menu set to 'Normal video'. A 'Save' button is present.
- GOV Settings :** Two input fields for 'H.264-1 GOV Length' and 'H.264-2 GOV Length' are both set to '60'. A 'Save' button is present.
- H.264 Profile :** Two dropdown menus for 'H.264-1' and 'H.264-2' are both set to 'Main profile'. A 'Save' button is present.

Figure 85: Video Format Screen

7.4.1.1 NTSC Video Resolution Settings

The following tables are video resolution settings for an NTSC TV system.

MJPEG + H.264 Video Resolution:

H.264	MJPEG
1920 x 1080 (15 fps)	1920 x 1080 (15 fps)
	1280 x 1024 (30 fps)
	1280 x 720 (30 fps)
	1024 x 768 (30 fps)
	800 x 600 (30 fps)
1920 x 1080 (30 fps)	720 x 480 (30 fps)
	640 x 480 (30 fps)
	352 x 240 (30 fps)
1280 x 1024 (30 fps)	1280 x 1024 (15 fps)
	1280 x 720 (30 fps)
	1024 x 768 (30 fps)
	800 x 600 (30 fps)
	720 x 480 (30 fps)
	640 x 480 (30 fps)
	352 x 240 (30 fps)
1280 x 720 (30 fps)	1280 x 720 (30 fps)
	1024 x 768 (30 fps)
	800 x 600 (30 fps)
	720 x 480 (30 fps)
	640 x 480 (30 fps)
	352 x 240 (30 fps)
1024 x 768 (30 fps)	1024 x 768 (30 fps)
	800 x 600 (30 fps)
	720 x 480 (30 fps)
	640 x 480 (30 fps)
	352 x 240 (30 fps)
800 x 600 (30 fps)	800 x 600 (30 fps)
	720 x 480 (30 fps)
	640 x 480 (30 fps)
	352 x 240 (30 fps)
720 x 480 (30 fps)	720 x 480 (30 fps)
	640 x 480 (30 fps)
	352 x 240 (30 fps)
640 x 480 (30 fps)	640 x 480 (30 fps)
352 x 240 (30 fps)	352 x 240 (30 fps)
	352 x 240 (30 fps)



Note:

MJPEG is not supported by Latitude.

H.264 + H.264 Video Resolution:

H.264-1	H.264-2
1920 x 1080 (15 fps)	1920 x 1080 (15 fps)
	1280 x 1024 (30 fps)
	1280 x 720 (30 fps)
	1024 x 768 (30 fps)
	800 x 600 (30 fps)
1920 x 1080 (30 fps)	720 x 480 (30 fps)
	640 x 480 (30 fps)
	352 x 240 (30 fps)
1280 x 1024 (30 fps)	1280 x 1024 (15 fps)
	1280 x 720 (30 fps)
	1024 x 768 (30 fps)
	800 x 600 (30 fps)
	720 x 480 (30 fps)
	640 x 480 (30 fps)
	352 x 240 (30 fps)
1280 x 720 (30 fps)	1280 x 720 (30 fps)
	1024 x 768 (30 fps)
	800 x 600 (30 fps)
	720 x 480 (30 fps)
	640 x 480 (30 fps)
	352 x 240 (30 fps)
1024 x 768 (30 fps)	1024 x 768 (30 fps)
	800 x 600 (30 fps)
	720 x 480 (30 fps)
	640 x 480 (30 fps)
	352 x 240 (30 fps)
800 x 600 (30 fps)	800 x 600 (30 fps)
	720 x 480 (30 fps)
	640 x 480 (30 fps)
	352 x 240 (30 fps)
720 x 480 (30 fps)	720 x 480 (30 fps)
	640 x 480 (30 fps)
	352 x 240 (30 fps)
640 x 480 (30 fps)	640 x 480 (30 fps)
	352 x 240 (30 fps)
352 x 240 (30 fps)	352 x 240 (30 fps)

MJPEG Only Video Resolution

MJPEG
1920 x 1080 (30 fps)
1280 x 1024 (30 fps)
1280 x 720 (30 fps)
1024 x 768 (30 fps)
800 x 600 (30 fps)
720 x 480 (30 fps)
640 x 480 (30 fps)
352 x 240 (30 fps)

**Note:**

MJPEG is not supported by Latitude.

H.264 Only Video Resolution

H.264
1920 x 1080 (30 fps) – Low latency
1920 x 1080 (30 fps)
1280 x 1024 (30 fps)
1280 x 720 (30 fps)
1024 x 768 (30 fps)
800 x 600 (30 fps)
720 x 480 (30 fps)
640 x 480 (30 fps)
352 x 240 (30 fps)

7.4.1.2 PAL Video Resolution Settings

The following tables are video resolution settings for a PAL system.

MJPEG + H.264 Video Resolution:

H.264	MJPEG
1920 x 1080 (25 fps)	720 x 576 (25 fps)
	640 x 480 (25 fps)
	352 x 288 (25 fps)
1920 x 1080 (13 fps)	1920 x 1080 (13 fps)
	1280 x 1024 (25 fps)
	1280 x 720 (25 fps)
	1024 x 768 (25 fps)
	800 x 600 (25 fps)
1280 x 1024 (25 fps)	1280 x 1024 (13 fps)
	1280 x 720 (25 fps)
	1024 x 768 (25 fps)
	800 x 600 (25 fps)
	720 x 576 (25 fps)
	640 x 480 (25 fps)
	352 x 288 (25 fps)
1280 x 720 (25 fps)	1280 x 720 (25 fps)
	1024 x 768 (25 fps)
	800 x 600 (25 fps)
	720 x 576 (25 fps)
	640 x 480 (25 fps)
1024 x 768 (25 fps)	352 x 288 (25 fps)
	1024 x 768 (25 fps)
	800 x 600 (25 fps)
	720 x 576 (25 fps)
	640 x 480 (25 fps)
800 x 600 (25 fps)	352 x 288 (25 fps)
	800 x 600 (25 fps)
	720 x 576 (25 fps)
	640 x 480 (25 fps)
720 x 576 (25 fps)	352 x 288 (25 fps)
	720 x 576 (25 fps)
	640 x 480 (25 fps)
640 x 480 (25 fps)	352 x 288 (25 fps)
	640 x 480 (25 fps)
352 x 288 (25 fps)	352 x 288 (25 fps)



Note:

MJPEG is not supported by Latitude.

H.264 + H.264 Video Resolution:

H.264-1	H.264-2
1920 x 1080 (13 fps)	1920 x 1080 (13 fps)
	1280 x 1024 (25 fps)
	1280 x 720 (25 fps)
	1024 x 768 (25 fps)
	800 x 600 (25 fps)
1920 x 1080 (25 fps)	720 x 576 (25 fps)
	640 x 480 (25 fps)
	352 x 288 (25 fps)
1280 x 1024 (25 fps)	1280 x 1024 (13 fps)
	1280 x 720 (25 fps)
	1024 x 768 (25 fps)
	800 x 600 (25 fps)
	720 x 576 (25 fps)
	640 x 480 (25 fps)
	352 x 288 (25 fps)
1280 x 720 (25 fps)	1280 x 720 (25 fps)
	1024 x 768 (25 fps)
	800 x 600 (25 fps)
	720 x 576 (25 fps)
	640 x 480 (25 fps)
	352 x 288 (25 fps)
1024 x 768 (25 fps)	1024 x 768 (25 fps)
	1024 x 768 (25 fps)
	800 x 600 (25 fps)
	720 x 576 (25 fps)
	640 x 480 (25 fps)
	352 x 288 (25 fps)
800 x 600 (25 fps)	800 x 600 (25 fps)
	720 x 576 (25 fps)
	640 x 480 (25 fps)
	352 x 288 (25 fps)
720 x 576 (25 fps)	720 x 576 (25 fps)
	640 x 480 (25 fps)
	352 x 288 (25 fps)
640 x 480 (25 fps)	640 x 480 (25 fps)
	352 x 288 (25 fps)
352 x 288 (25 fps)	352 x 288 (25 fps)

MJPEG Only Video Resolution

MJPEG
1920 x 1080 (25fps)
1280 x 1024 (25fps)
1280 x 720 (25fps)
1024 x 768 (25fps)
800 x 600 (25fps)
720 x 576 (25fps)
640 x 480 (25fps)
352 x 288 (25fps)

**Note:**

MJPEG is not supported by Latitude.

H.264 Only Video Resolution

H.264
1920 x 1080 (25fps) - Low Latency
1920 x 1080 (25fps)
1280 x 1024 (25fps)
1280 x 720 (25fps)
1024 x 768 (25fps)
800 x 600 (25fps)
720 x 576 (25fps)
640 x 480 (25fps)
352 x 288 (25fps)

7.4.1.3 Text Overlay Settings

Users can select the items to display data including date/time/text on the Live Video pane. The maximum length of the string is 20 alphanumeric characters. Click **Save** to confirm the Text Overlay setting.

7.4.1.1 Video Rotate Type

You can change video display type if necessary. Selectable video rotate types include Normal video, Flip video, Mirror video, 90 degree clockwise, 180 degree rotate, and 90 degree counterclockwise. Differences among these types are illustrated below. The following drop-down menu appears when selecting this option.

The screenshot shows the dvtel web interface with the 'Video Format' tab selected. The 'Video Rotate Type' dropdown menu is open, displaying the following options: Normal video, Normal video, Flip video, Mirror video, 90 degree clockwise, 180 degree rotate (highlighted), and 90 degree counterclockwise. The 'Save' button is visible below the menu. Other settings visible include Video Resolution (H.264 + H.264), Format 1 (1920 x 1080 (30 fps)), Format 2 (640 x 480 (30 fps)), BNC support (N/A), Text Overlay Settings (Include date, Include time, Include text string), and H.264 Profile (Main profile).

Figure 86: Video Rotate Type Drop-Down Menu

Suppose the displayed image of the camera is shown as follows.



Figure 87: View-1 (Source)

To rotate the image vertically, for example, select *Flip video*. The displayed image is reversed as shown on the next page.



Figure 88: View-2 Image Rotated Vertically (Reversed)

Following are descriptions of different video rotate types.

- *Normal video* – The image appears as it is viewed.
- *Flip video* – The image is reversed along its horizontal axis.
- *Mirror video* – The image is reversed along its vertical axis.
- *90 degree clockwise* – The image rotates 90° clockwise (to the right).
- *180 degree rotate* – The image rotates 180° counter-clockwise (to the left).
- *90 degree counterclockwise* – The image rotates 90° counter-clockwise (to the left).

Click **Save** to confirm the setting.

7.4.1.2 GOV Settings

You can set the GOV length to determine the frame structure (I-frames and P-frames) in a video stream for saving bandwidth. The setting range is from 2 to 64. A longer GOV means decreasing the frequency of I-frames. Click **Save** to confirm the GOV setting.

7.4.1.3 H.264 Profile

The H.264 standard defines 21 sets of capabilities. These are referred to as profiles and they target specific classes of applications. In the security industry, the most common are as follows:

- Baseline Profile (BP)**
 Primarily for low-cost applications that require additional data loss robustness, *Baseline Profile* is used in some videoconferencing and mobile applications. This is the most common profile used in IP security cameras due to the low computational cost of processing the video using this profile.
- Main Profile (MP)**
 This profile provides improved picture quality at reduced bandwidths and storage costs and is becoming more common as the camera processors (DSPs) become more able to handle the processing load. *Main Profile* can save 10-30% over *Baseline*.
- High Profile (HP)**
High Profile is the primary profile for HD broadcast and Blu-ray HD disc media applications. It can save 10-30% of the storage cost over *Main Profile*. However, it may also increase video latency, depending on the stream structure. Quasar models default to the *Main Profile* to provide the best trade-off between storage size and video latency.

Click **Save** to confirm the settings.

7.4.2 Video Compression

From the **Video Compression** page, you can specify MJPEG/H.264 compression settings.

The screenshot displays the 'Video Compression' configuration page in the dvtel interface. The left sidebar contains a menu with 'Video Compression' selected. The main panel is divided into several sections for configuring video settings:

- MJPEG Compression setting:** Includes an input field for 'MJPEG Q factor' set to 35 and a 'Save' button.
- H.264-1 Compression setting:** Includes an input field for 'H264-1 bit rate' set to 4096 kbit/s and a 'Save' button.
- H.264-2 Compression setting:** Includes an input field for 'H264-2 bit rate' set to 2000 kbit/s and a 'Save' button.
- Compression information setting:** Includes a checked checkbox for 'Display compression information in the home page' and a 'Save' button.
- CBR mode setting:** Includes two checked checkboxes for 'enable H.264-1 CBR mode' and 'enable H.264-2 CBR mode', along with a 'Save' button.

Figure 89: Video Compression Screen

MJPEG Compression Setting

A higher value implies higher bit rates and higher visual quality. The default setting of the MJPEG Q factor is 35. The setting range is from 1 to 70. Click **Save** to confirm the setting.

**Note:**

MJPEG is not supported by Latitude.

H.264-1/H.264-2 Compression Setting

The default setting of H.264-1/H.264-2 is 4096/1024 kbps. The setting range is from 64 to 8192 kbps. Click **Save** to confirm the setting.

**Note:**

The second stream is limited to 2048 kbps.

Compression Information Setting

Select the checkbox to display compression information on the **Home** page. Click **Save** to confirm the setting.

CBR Mode Setting

If available bandwidth is limited, CBR (Constant Bit Rate) mode can be selected. To operate the camera in Variable Bit Rate (VBR) mode, uncheck the CBR checkbox. Click **Save** to confirm the setting.

**Note:**

CBR mode affects image quality.

7.4.3 Video OCX Protocol

From the **Video OCX Protocol** page, you can select various protocols for streaming media over the network. In the case of multicast networking, select **Multicast mode**.

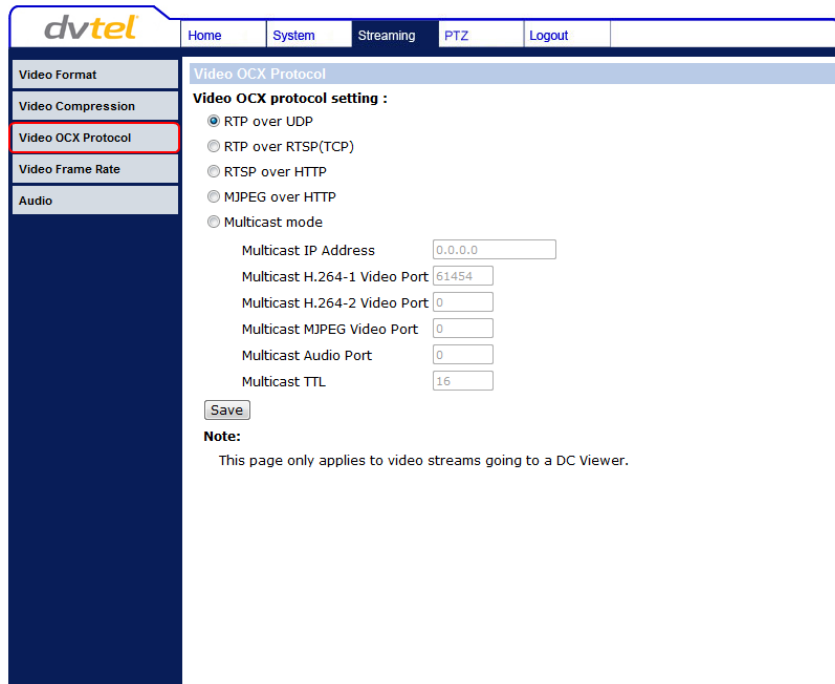


Figure 90: Video OCX Protocol Screen (all units except CP-4221-301)

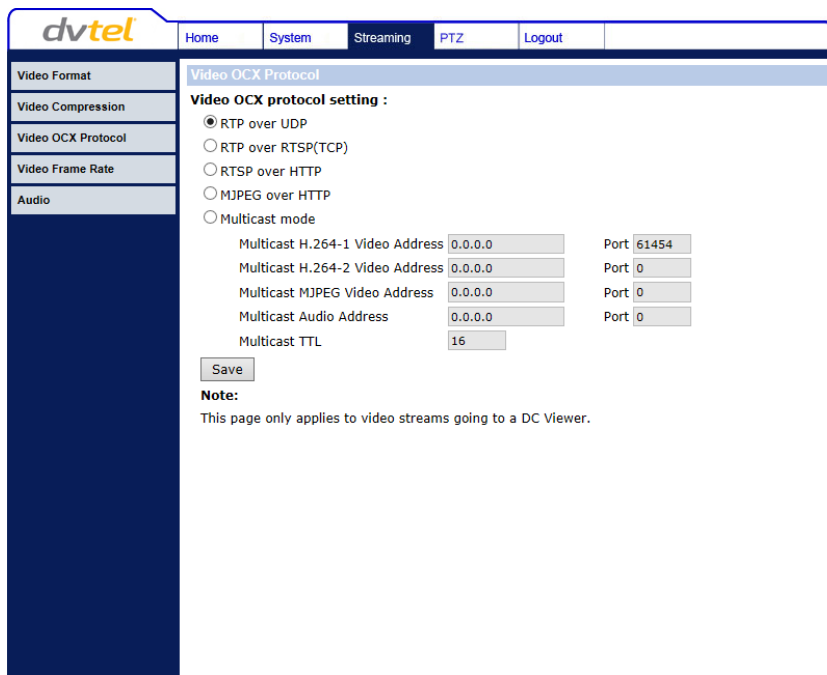


Figure 91: CP-4221-301 Video OCX Protocol Screen

Video OCX protocol setting options include:

- *RTP over UDP*
- *RTP over RTSP (TCP)*
- *RTSP over HTTP*
- *MJPEG over HTTP*
- *Multicast mode*
 - o For all units except the CP-4221-301, enter the following parameters:
 - Multicast IP address
 - Multicast H.264-1 video port
 - Multicast H.264-2 video port
 - Multicast MJPEG video port
 - Multicast MJPEG audio port
 - Multicast TTL
 - o For CP-4221-301, enter the following parameters:
 - Multicast H.264-1 video address and port
 - Multicast H.264-2 video address and port
 - Multicast MJPEG video address and port
 - Multicast audio address and port
 - Multicast TTL

**Note:**

MJPEG is not supported by Latitude.

Click **Save** to confirm the settings. Click **Save** to confirm the settings.

7.4.4 Video Frame Rate

From the **Video Frame Rate** screen, you can specify the frames per second (fps) for each video compression format.

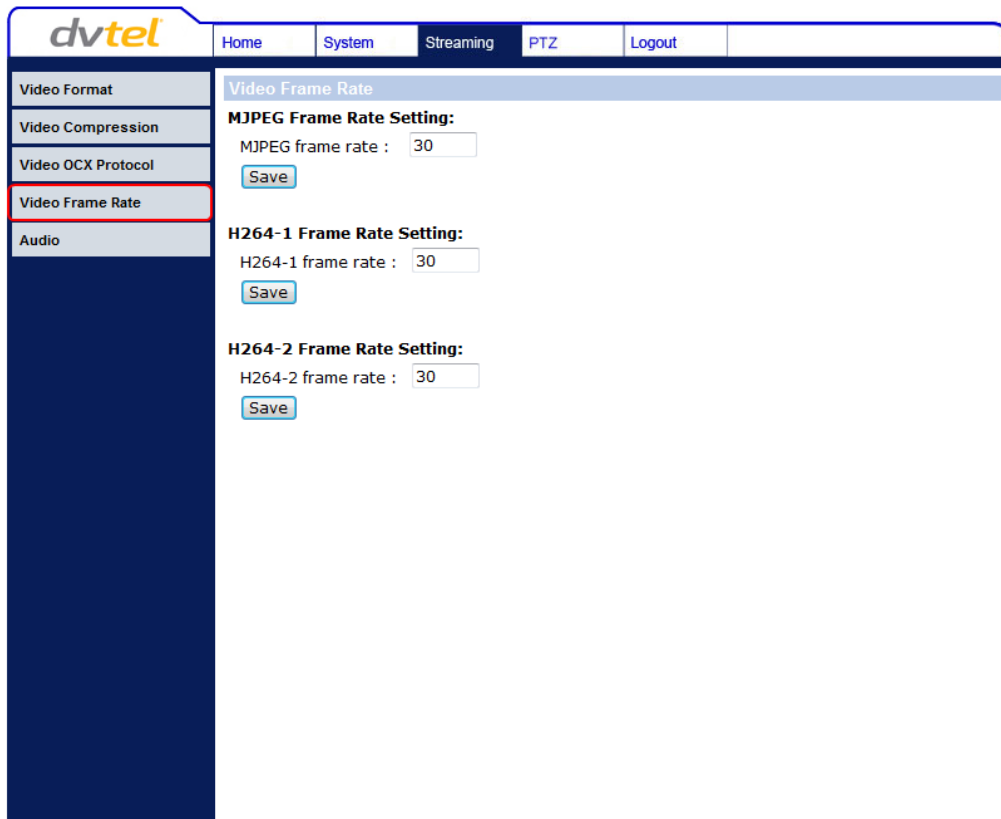


Figure 92: Video Frame Rate Screen

MJPEG/H.264-1/H.264-2 Frame Rate

- The default setting of the MJPEG Frame Rate is 30 fps in NTSC and 25 fps in PAL.
- The setting range for the H-264-1 Frame Rate is from 1 to 30 in NTSC and 1 to 25 in PAL.
- The setting range for the H-264-2 Frame Rate is from 1 to 30 in NTSC and 1 to 25 in PAL.

Click **Save** to confirm the settings.



Note:

MJPEG is not supported by Latitude.



Note:

A lower frame rate decreases video smoothness.

7.4.5 Audio

From the **Audio** screen you can select the Transmission Mode, Server Gain, Bit Rate, and enable or disable storage of the audio recording.

Figure 93: Audio Parameter Setting Screen

Transmission Mode

- *Full-duplex (Talk and listen simultaneously)* – In the Full-duplex mode, the local and remote sites can communicate with each other simultaneously, i.e. both sites can speak and be heard at the same time.
- *Half-duplex (Talk or listen, not at the same time)* – In the Half-duplex mode, the local or remote site can only talk or listen to the other site at one time.
- *Simplex (Talk only)* – In the Talk only Simplex mode, the local/remote site can only talk to the other site.
- *Simplex (Listen only)* – In the Listen only Simplex mode, the local/remote site can only listen to the other site.
- *Disable* – Select this option to turn off the audio transmission function.

Server Gain Setting

Set the audio input/output gain levels for sound amplification. The audio gain values are adjustable from 1 to 6. The sound will be turned off if the audio gain is set to *Mute*.

Bit Rate

Selectable audio transmission bit rate include 16 kbps (G.726), 24 kbps (G.726), 32 kbps (G.726), 40 kbps (G.726), μ LAW (G.711) and ALAW (G.711). Both μ LAW and ALAW signify 64 kbps, but in different compression formats. A higher bit rate enables higher audio quality, but requires higher bandwidth.



Note:

Latitude does **not** support G.726 bit rates.

Click **Save** to confirm the settings.

Recording to Storage

This function enables recording audio on the SD card. The *Recording to Storage* function may be enabled or disabled in the **Audio** screen. The default setting is *Disabled*.



Note:

This function works only if the **Record to Storage** function has been activated or if the **Schedule** function has been set.

Click **Save** to confirm the settings.

7.5 PTZ Settings

The figure below shows the functions that are available from the PTZ tab. Each category in the sidebar is explained in the following sections.

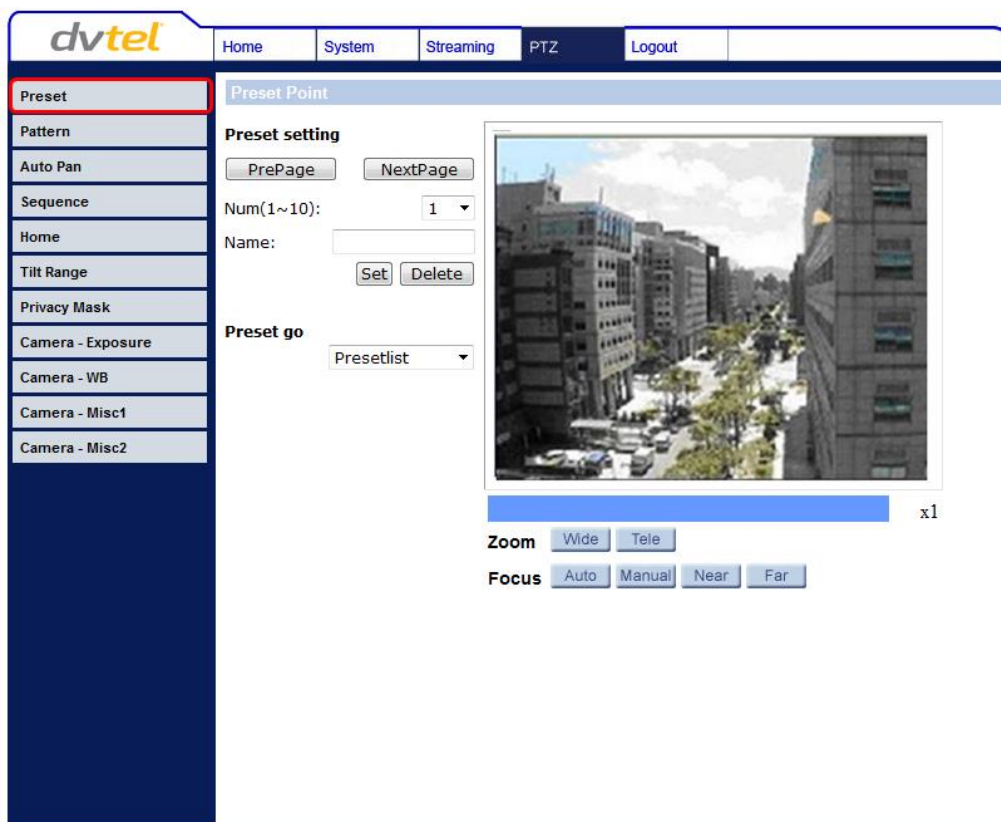


Figure 94: Preset Point Screen

Related Links

[Preset](#)

[Pattern](#)

[Auto Pan](#)

[Sequence](#)

[Home](#)

[Tilt Range](#)

[Privacy Mask](#)

[Exposure](#)

[Camera - WB](#)

[Camera – Misc1](#)

[Camera – Misc2](#)

7.5.1 Preset

The **PTZ** tab opens on the **Preset Point** screen. See Figure 94: Preset Point Screen. From the **Preset Point** page, you can program up to 256 Preset Points to target a specific view in the Live View pane.

To program a Preset Point:

1. Move the cursor to the Live View pane.
2. Left-click and drag the red pointer to the desired position.
3. Adjust the fine zoom/focus ratio.
4. Under *Preset setting*, assign an unused number to the Preset Point from the drop-down menu. Click **PrePage** or **NextPage** for additional numbers.
5. In the *Name* text box, enter a friendly name for the Preset Point.
6. Click **Set** to save settings.

To move the camera to a Preset position:

1. Under *Preset go*, select the desired Preset Point from the *Preset* drop-down menu.
2. Use the **PrePage** or **NextPage** buttons located under Preset setting for additional numbers. The camera moves to the target position.

To delete a Preset:

1. Select the desired Preset Point from the drop-down menu.
2. Click **Delete** to remove the Preset.

7.5.2 Pattern

From the **Pattern** page, up to four Pattern Lines may be defined. A Pattern Line is a stored route defined through manual adjustment of pan, tilt, and zoom.

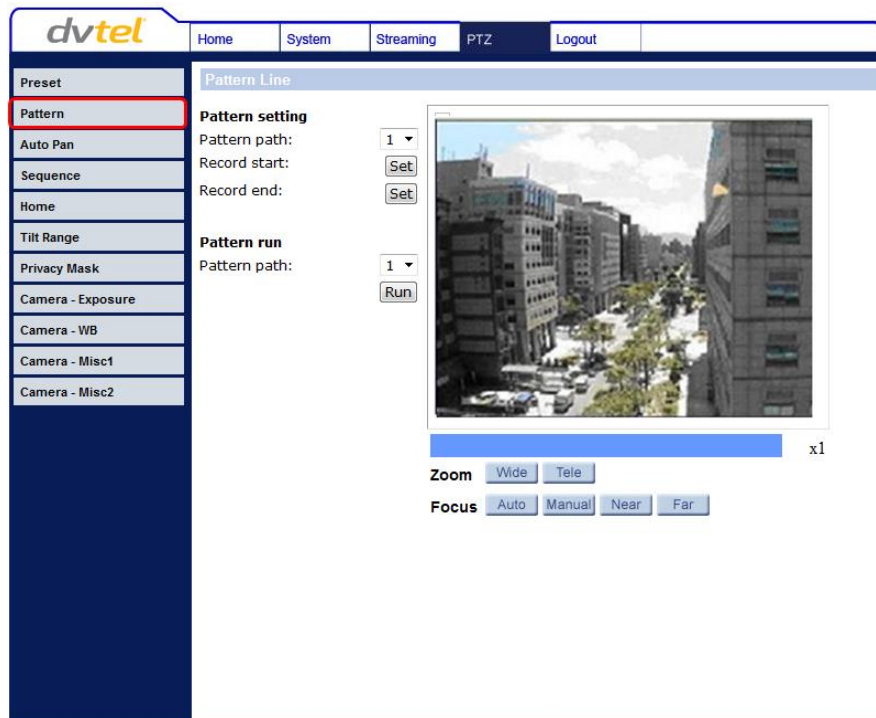


Figure 95: Pattern Line Screen

To set up a Pattern Line:

1. Select a path number from the Pattern path drop-down menu.
2. In the Live View pane, move the cursor to the desired start point of the Pattern path.
3. Use the PTZ controls to set the desired start point view.
4. Click Record start: Set.
5. Use the PTZ controls to define the path within the Live View pane.
6. Click Record end: Set when finished.

To move the camera along a Pattern Line:

1. Under Pattern run, select the desired Pattern path from the drop-down menu.
2. Click Run. The camera moves along the recorded Pattern path.

To view the camera in full screen mode as it follows the Pattern Line:

1. Move the cursor onto the Live View pane.
2. Right-click and select full screen.
3. Double-click to exit full screen mode.

To stop running a Pattern Line:

1. Move the cursor to the Live View pane and move the camera in any direction.

7.5.3 Auto Pan

From the **Auto Pan** page, up to four Auto pan paths may be defined. An Auto pan path scans an area horizontally from left to right or right to left at a user-defined speed.

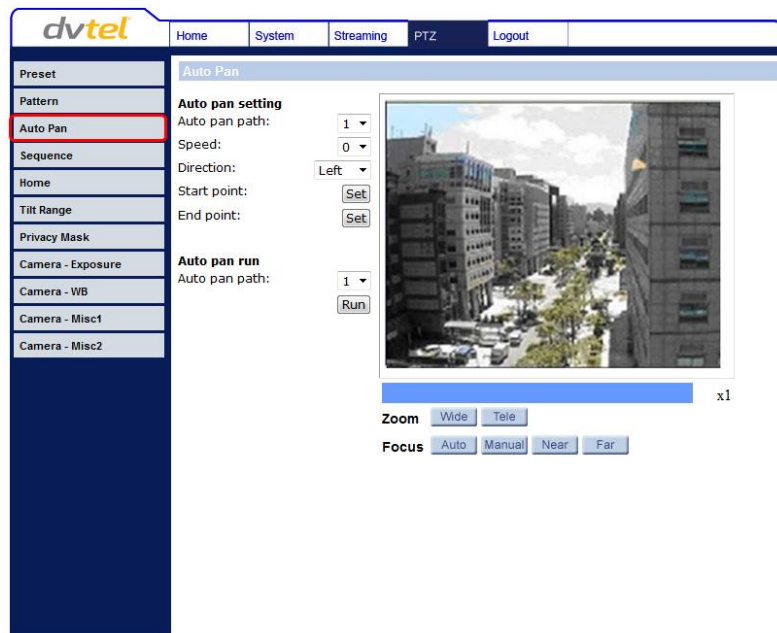


Figure 96: Auto Pan Screen

To set up an Auto pan path:

1. From under Auto pan setting, select a path number from the Auto pan path drop-down list.
2. In the Live View pane, move the camera view to the desired start point and click **Start Point: Set.**

**Note:**

The zoom ratio at the start point is maintained for the entire Auto pan path.

3. Select a speed setting from the *Speed* drop-down menu, from 0 (low) to 3 (fast).
4. Select a direction for the path from the *Direction* drop-down menu.
5. In the Live View pane, move the camera view to the desired end point. Click **End Point: Set.**

To run an Auto pan path:

1. Under *Auto pan run*, select the desired Auto pan path from the drop-down list.
2. Click **Run.**

The camera will move along the defined Auto pan path.

To view the camera in full screen mode as it follows the Pattern Line:

1. Move the cursor onto the Live View pane.
2. Right-click and select Full screen.
3. Double-click to exit full screen mode.

To stop running an Auto pan path:

1. Move the cursor to the Live View pane and move the camera in any direction.

7.5.4 Sequence

The **Sequence** page enables you to define up to eight Sequence lines for the camera image. A Sequence line is an automated series of camera movements from one Preset Point to another, in a pre-determined order, and for configurable time periods. Each Sequence line can contain up to 64 different Preset Points.

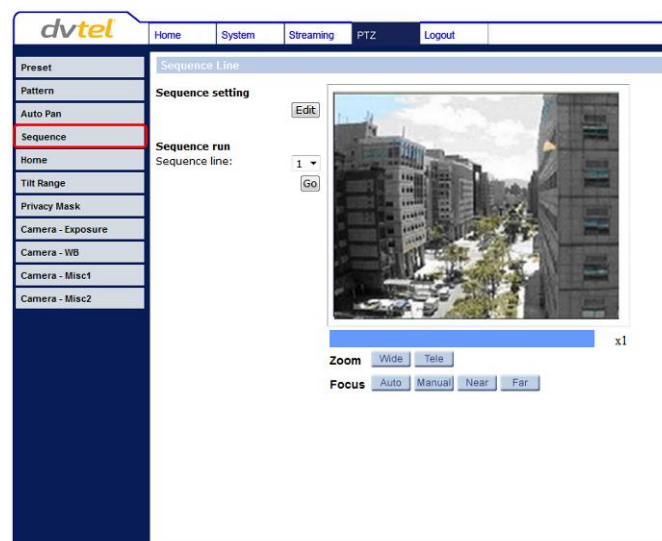


Figure 97: Sequence Screen

**Note:**

Before creating a sequence, you must first define at least two Preset Points.
See [Preset](#).

To set up Sequence Line:

1. In the *Sequence setting* section, click **Edit**. The **Sequence Set** screen opens.

#	Preset Name	Dwell time [0..127]	Speed[0..14]
1.	--no setting--		
2.	--no setting--		
3.	--no setting--		
4.	--no setting--		
5.	--no setting--		
6.	--no setting--		
7.	--no setting--		
8.	--no setting--		
9.	--no setting--		
10.	--no setting--		
11.	--no setting--		
12.	--no setting--		
13.	--no setting--		
14.	--no setting--		
15.	--no setting--		

Figure 98: Sequence Set Screen

2. Select a Sequence line number from the *Sequence line* drop-down list.
3. Define each Preset Point for the Sequence line in the desired order:
 - a. Select the first Preset Point from the Preset Name list. Use the **PrePage** or **NextPage** buttons to navigate between the Sequence preset numbers.
 - b. Specify the *Dwell time* (between 0 and 127 seconds) for the first Preset Point.
 - c. Specify the camera's *Speed* (between 0 and 14).
4. Repeat steps a, b, and c for up to 64 Preset Points.
5. Click **Save** to save your preset sequence.

To run the camera through a Sequence line:

1. From the Sequence run section, select the Sequence line from the drop-down list.
2. Click Go. The camera moves through each Preset Point sequentially as programmed.

To view the camera in full screen:

1. Move the cursor onto the Live View pane.
2. Right-click and select *Full screen*.
3. Double-click to exit *Full screen* mode.

To stop running a Sequence line:

Move the cursor to the Live View pane and move the camera in any direction.

7.5.5 Home

The **Home Function** page under the **PTZ** tab allows you to specify an operation mode to be activated automatically when the camera is idle for a specified period of time.

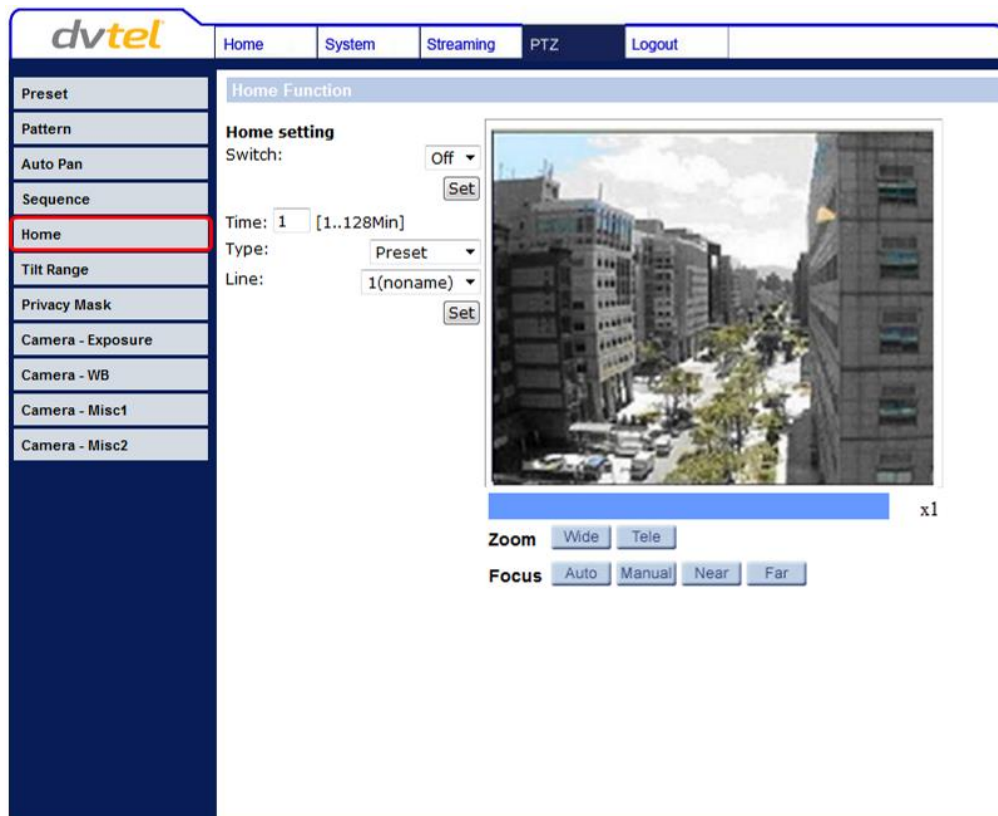


Figure 99: Home Function Screen

Switch

Select **Switch: On** or **Switch: Off** to activate or disable the Home function. Click **Set** to save the setting.

Time

Specify the time the camera is idle before executing the Home function action. The time period ranges from 1 to 128 minutes.

Type

Specify the type of action to be performed as the Home function: **Preset**, **Sequence**, **Auto pan**, or **Pattern**.

Line

Specify the *Preset*, *Sequence*, *Auto pan*, or *Pattern path* number.

Set

Click **Set** beneath the **Line** drop-down box to save the Home function settings.

7.5.6 Tilt Range

The **Tilt Range** page allows you to specify the camera's **Tilt Angle**.

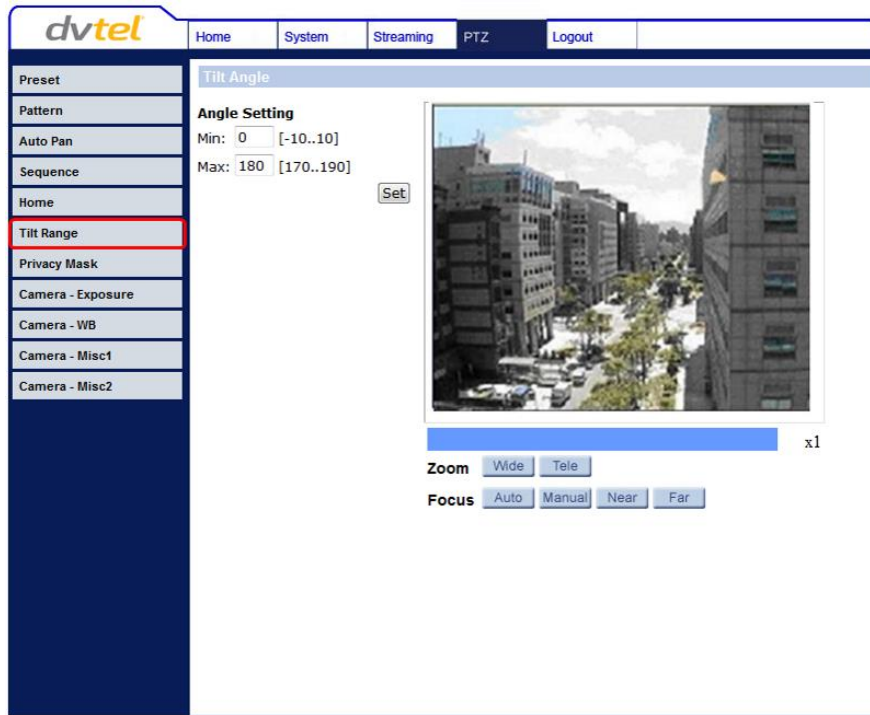


Figure 100: Tilt Angle Screen

Angle Setting

- *Min* – Set the minimum tilt angle (from -10° to 10°).
- *Max* – Set the maximum tilt angle (from 80° to 100° if the *Flip* function is not activated, or from 170° to 190° if the *Flip* function is on).

Set

Click **Set** to save the Tilt Angle settings.

7.5.7 Privacy Mask

From the **Privacy Mask** page, you can set up to 16 privacy masks. The Privacy Mask function allows concealment of sensitive portions of the camera image to avoid intrusive monitoring.

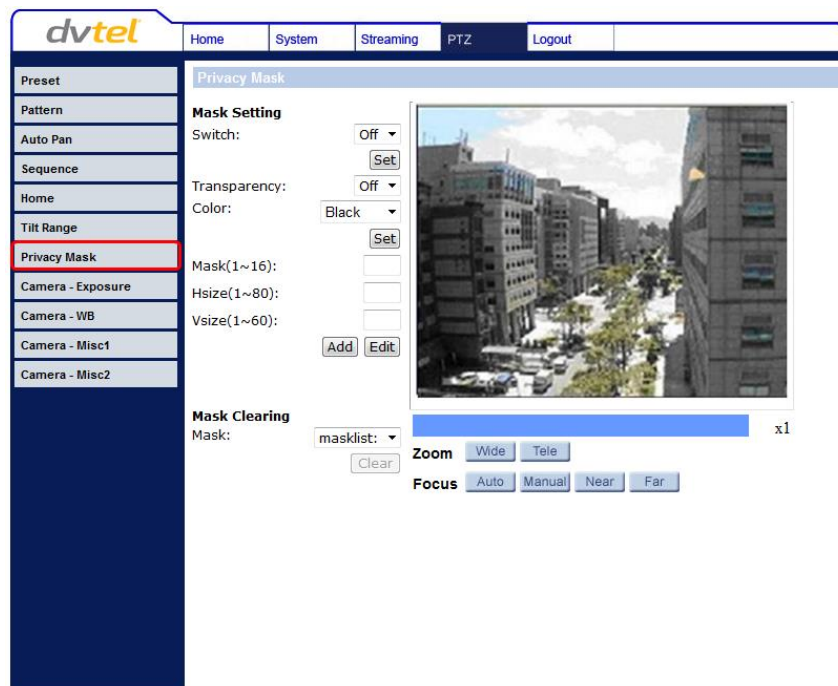


Figure 101: Privacy Mask Screen



Note:

The Image Flip function and the Image Inverse function are automatically disabled when the Privacy Mask function is on. See [Camera – Misc1 \(Miscellaneous Settings Menu 1\)](#) and [Camera – Misc2 \(Miscellaneous Settings Menu 2\)](#), respectively.

Mask Setting

- *Switch* – Select **Switch: On** or **Switch: Off** to activate or disable the Privacy Mask function. Click **Set** to save the setting.
- *Transparency* – Select **Transparency: On** or **Transparency: Off** to activate or disable Privacy Mask transparency.
- *Color* – Select the desired color from the *Color* drop-down menu for the specified Privacy Mask. Click **Set** to save the setting.
- *Mask Number* – Specify the number of the programmed Privacy Mask in the corresponding field.
- *Mask Size* – Specify the Horizontal (1~80) and Vertical (1~60) size of the Privacy Mask.
- *Add* – Click **Add** to save the programmed Privacy Mask.

Mask Clearing

To delete an existing Privacy Mask:

1. Select the Privacy Mask to be removed from the Mask drop-down menu.
2. Click **Clear**.

7.5.8 Exposure

The exposure is the amount of light received by the image sensor and is determined by the width of the lens diaphragm opening, the amount of exposure by the sensor (shutter speed), and other exposure parameters.

7.5.8.1 Exposure settings on all units except CP-4221-301

For all units except the CP-4221-301, on the **Exposure** page, users can select either Full Auto mode or adjust the parameters of the Shutter Priority or Iris Priority. Users can also select Manual mode for optimized video output in accordance with the operating environment.

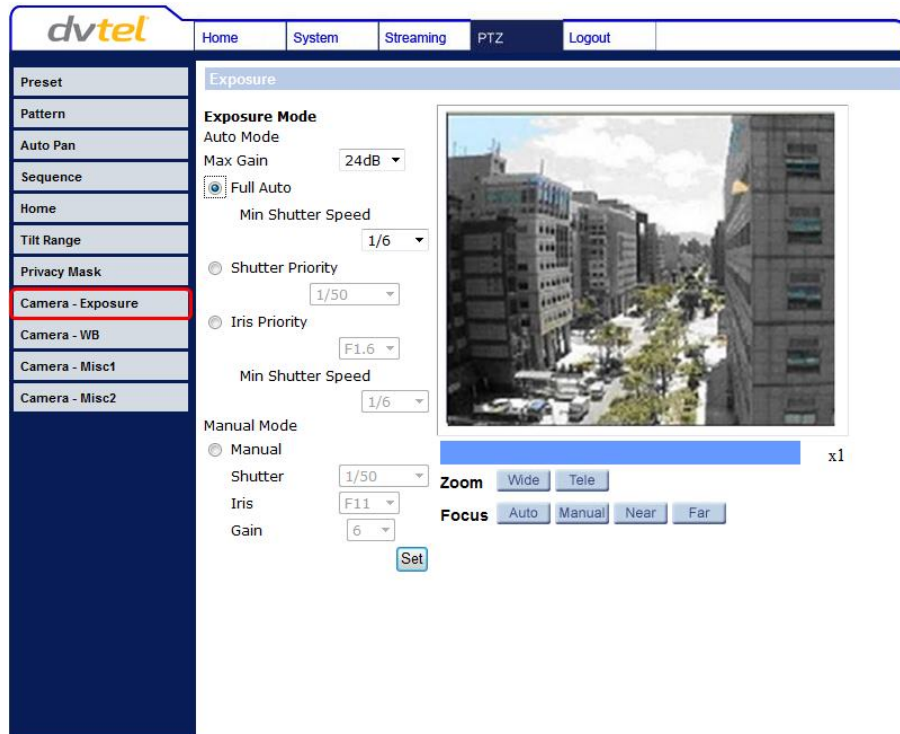


Figure 102: Exposure Screen (all units except CP-4221-301)

Auto Mode Max Gain

From the drop-down list, set the gain (from *Off* to 57dB in 3dB steps).

Full Auto Mode

If *Full Auto* is selected, exposure parameters are set automatically. From the drop-down list, select the minimum shutter speed (*Off*, 1/12, 1/6, 1/3, 1/1.5, or 1).

Shutter Priority Mode

When selecting this mode, a fixed shutter speed is set, while iris and gain vary automatically accordingly. From the drop-down list, select a shutter speed from 1/10000 to 1/25.

Iris Priority Mode

In this mode, the iris value is fixed, while gain and shutter speed vary automatically accordingly. In this mode, the iris value is fixed, while gain and shutter speed vary automatically accordingly. The value of iris is adjustable from F1.6 to F28. Set the minimum shutter speed.

Manual Mode

Select *Manual* to use this mode. In this mode, you can manually specify the Shutter speed ($1/10000$ to $1/25$), Iris ($F1.6$ to $F28$), and Gain (1 to 15).

Set

Click **Set** after selecting the settings.

Zoom

Select *Wide* or *Tele*. Then drag the cursor on the Zoom bar to set the zoom level, which is displayed in the window (x1..x18 on CP-3211-xxx or x1..x20 on CP-4221-xxx).

Focus

Select one of the following settings: *Auto*, *Manual*, *Near*, or *Far*.

7.5.8.2 Exposure settings on CP-4221-301

On the CP-4221-301, from the **Exposure** page, users can select either Full Auto mode or adjust the parameters of the Iris Priority, or select Manual mode for optimized video output in accordance with the operating environment.

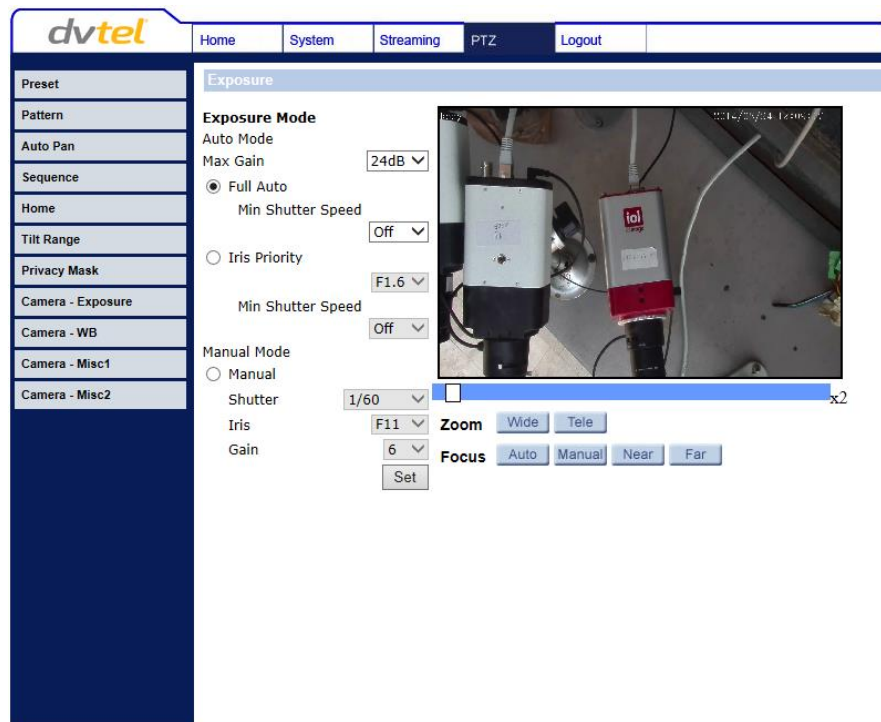


Figure 103: CP-4221-301 Exposure Screen

Auto Mode Max Gain

From the drop-down list, set the gain (from *Off* to $57dB$ in $3dB$ steps).

Full Auto Mode

If *Full Auto* is selected, exposure parameters are set automatically. From the drop-down list, select the minimum shutter speed (*Off*, $1/15$, $1/8$, $1/4$, $1/2$, or 1).

Iris Priority Mode

In this mode, the iris value is fixed, while gain and shutter speed vary automatically accordingly. The value of iris is adjustable from $F1.6$ to $F28$. Set the minimum shutter speed.

Manual Mode

Select *Manual* to use this mode. In this mode, you can manually specify the Shutter speed ($1/10000$ to $1/25$), Iris ($F1.6$ to $F28$), and Gain (1 to 15).

Set

Click **Set** after selecting the settings.

Zoom

Select *Wide* or *Tele*. Then drag the cursor on the Zoom bar to set the zoom level, which is displayed in the window (x1..x30).

Focus

Select one of the following settings: *Auto*, *Manual*, *Near*, or *Far*.

7.5.9 Camera – WB (White Balance)

On the **Camera – WB** page you can define the White Balance settings.

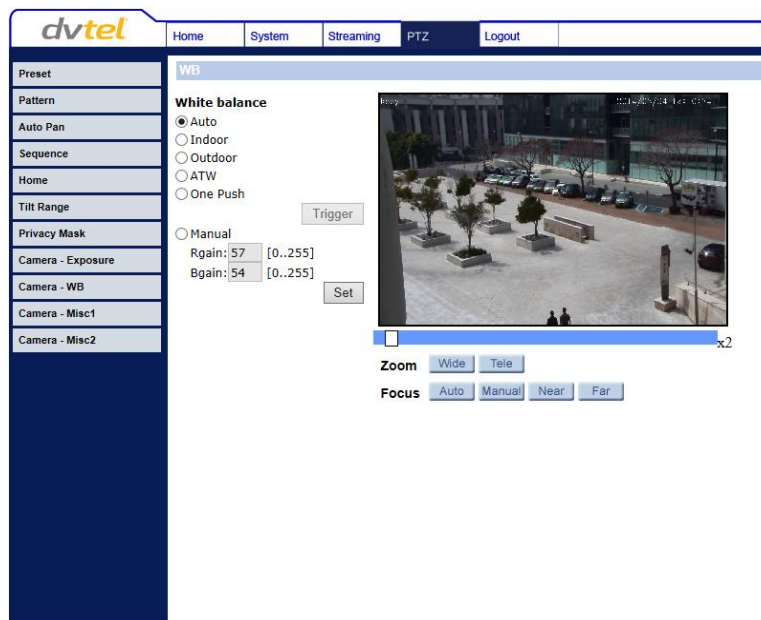


Figure 104: CP-4221-301 White Balance Screen

A camera needs to find a reference color temperature as a way of measuring the quality of a light source for calculating all other colors. The unit for measuring this ratio is in degrees Kelvin ($^{\circ}\text{K}$). You can select one of the White Balance control modes according to the operating environment. The following table shows the color temperature of some light sources for reference.

Table 10: Light Sources versus Color Temperature

Light Sources	Color Temperature ($^{\circ}\text{K}$)
Cloudy Sky	6,000 to 8,000
Noon Sun and Clear Sky	6,500
Household Lighting	2,500 to 3,000
75-watt Bulb	2,820
Candle Flame	1,200 to 1,500

7.5.9.1 White Balance mode on all units except the CP-4221-301

On all units, five white balance modes are available:

- *Auto* – The Auto Balance White mode computes the white balance value output using color information from the entire screen. It is suitable for an environment with a light source color temperature in the range of approximately 2,700 ~ 7,500K.
- *Indoor* – This is a static indoor mode setting.
- *Outdoor* – This is a static indoor mode setting.
- *ATW (Auto Tracking White Balance)* – The Auto Tracking White Balance function automatically adjusts the white balance in a scene while temperature color is changing. The ATW Mode is suitable for an environment with a light source color temperature in the range of approximately 2500 ~ 10,000K.
- *Manual* – In this mode, you can manually change the white balance value. You can select a number between 0 ~255 for either/both Rgain and Bgain to increase the red and/or blue luminance.

Click **Set** to save settings.

Zoom

Select *Wide* or *Tele*. Then drag the cursor on the Zoom bar to set the zoom level, which is displayed in the window (x1..x18 on CP-3211-xxx or x1..x20 on CP-4221-xxx).

Focus

Select one of the following settings: *Auto*, *Manual*, *Near*, or *Far*.

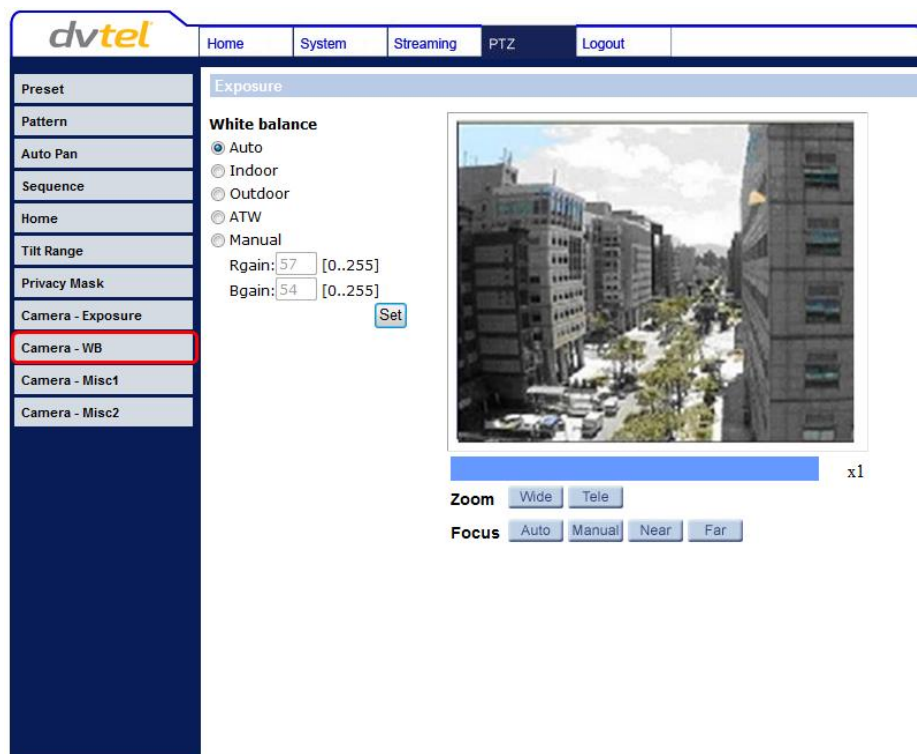


Figure 105: White Balance Screen (all units except CP-4221-301)

7.5.9.2 White Balance mode on the CP-4221-301

On the CP-4221-301, in addition to the five modes listed above, a sixth white balance mode (*One Push*) is available.

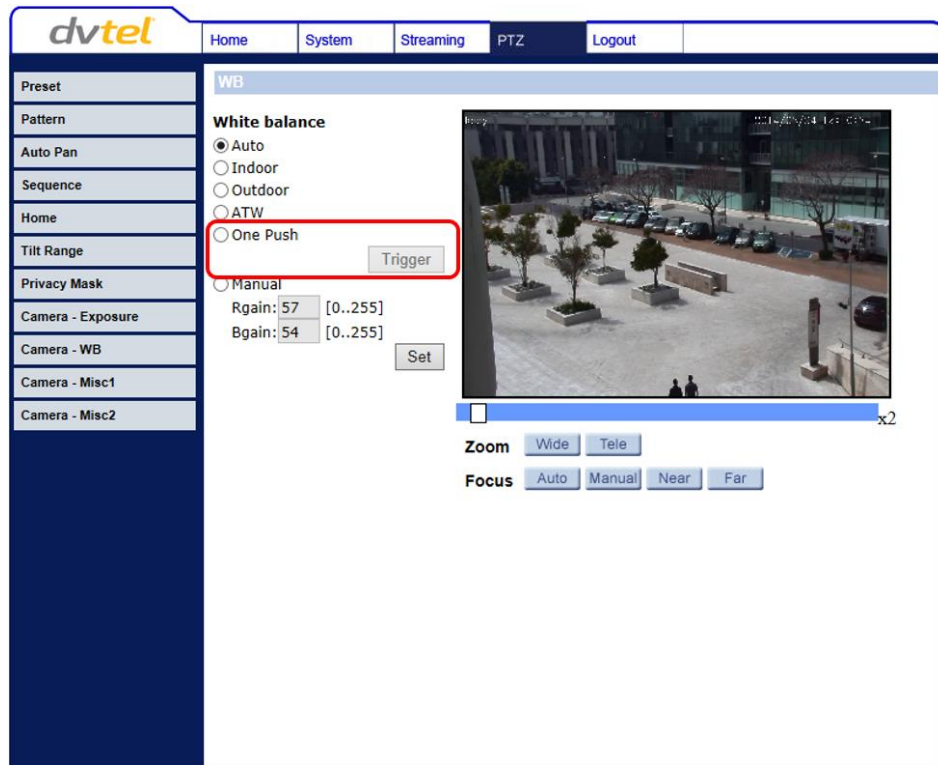


Figure 106: CP-4221-301 White Balance Screen

Click **One Push** to set the camera's white balance to the current lighting condition as a reference point. Click the **Trigger** when you are ready to activate the One Push function.

Set

Click **Set** after selecting the settings.

Zoom

Select *Wide* or *Tele*. Then drag the cursor on the Zoom bar to set the zoom level, which is displayed in the window (x1..x30).

Focus

Select one of the following settings: *Auto*, *Manual*, *Near*, or *Far*.

7.5.10 Camera – Misc1 (Miscellaneous Settings Menu 1)

7.5.10.1 Camera – Misc1 screen on all units except the CP-4221-301

On all units except the CP-4221-301, you can set the following camera parameters on the **Camera-Misc1** page:

- Backlight compensation (BLC)
- Sharpness
- Exposure compensation (ExpComp)
- Flip
- Digital zoom
- Speed by zoom
- ICR function
- ICR Threshold

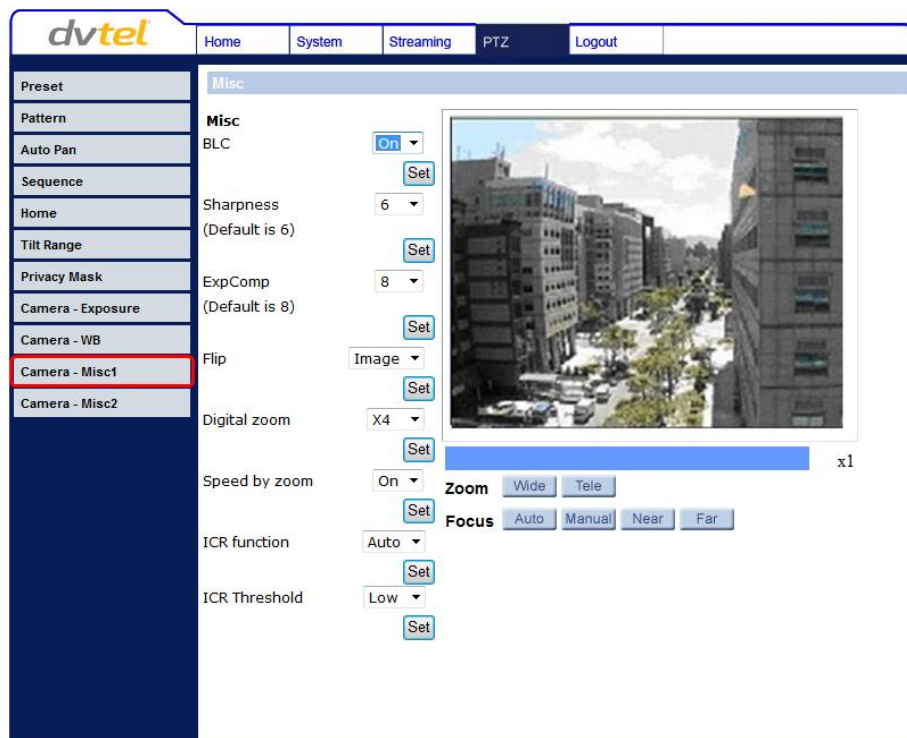


Figure 107: Camera – Misc1 Screen

BLC

The Backlight Compensation function prevents the center object from being too dark in surroundings where excessive light is behind the center object. From the drop-down list, select **On** or **Off**. Click **Set** to confirm the setting.

Sharpness

Increasing the sharpness level can make the image look sharper, especially enhancing the object's edge. From the drop-down list, select from the range between 1 to 15. The default is 6. Click **Set** to confirm the setting.

ExpComp

You can define the value of Exposure Compensation. From the drop-down list, select a value from 1 to 15. The default is 8. Click **Set** to confirm the setting.

Flip

You can track an object continuously when it passes under the camera by selecting *M.E.* (Mechanical) or *Image* (Digital Flip) mode from the drop-down list. Select *Off* if you do want to use this function. Click **Set** to confirm the setting.

- *M.E.* mode – M.E. is a standard mechanical operation. As the dome camera tilts to the maximum angle, it pans 180° and then continues tilting to keep tracking objects.
- *Image* mode – In Digital Image Flip mode, the camera seamlessly tracks objects.

**Note:**

The Flip setting is manually controlled only. If a Preset Position or a point for another function (ex. Sequence) is set to a position that can only be reached by Flip motion, it cannot be reached when the Flip function is *Off*.

**Note:**

To tilt the camera within a specific range, such as -10° to +100° or -10° to +190°, set the tilt angle range on the **Tilt Range** setting page. If not specified, the default setting is 90°.

**Note:**

The Privacy Mask function is automatically disabled when the Image Flip function is enabled.

Digital Zoom

The Digital Zoom enables 10 zooming levels (ranging from *Off* to *X10*). Select the zoom level from the drop-down list. Click **Set** to save the setting.

Speed by Zoom

Enable this function to automatically adjust by internal algorithm the pan/tilt speed when zooming. From the drop-down list, select *On* or *Off*. Click **Set** to save the setting.

ICR Function (Infrared Cut-Filter Removal)

The camera uses the IR cut filter to capture a clear image at night time or in low light conditions. From the drop-down list, select *On* to enable, *Off* to disable, or *Auto*. In the *Auto* mode, the internal circuit automatically chooses when to remove the IR cut filter according to image brightness level. Click **Set** to confirm the setting.

ICR Threshold

The ICR Threshold setting switches the sensitivity of the IR cut filter. Select one of the following settings from the drop-down list:

- *Low*
- *Mid*
- *High*

Click **Set** to confirm the setting.

Zoom

Select *Wide* or *Tele*. Then drag the cursor on the Zoom bar to set the zoom level, which is displayed in the window (x1..x18 on CP-3211-xxx or x1..x20 on CP-4221-xxx).

Focus

Select one of the following settings: *Auto*, *Manual*, *Near*, or *Far*.

7.5.10.2 Camera – Misc1 screen on the CP-4221-301

On the CP-4221-301, on the **Camera-Misc1** page, you can set the following camera parameters:

- Sharpness
- Exposure compensation (ExpComp)
- Flip
- Digital zoom
- Speed by zoom
- Day/Night Function
- ICR Threshold

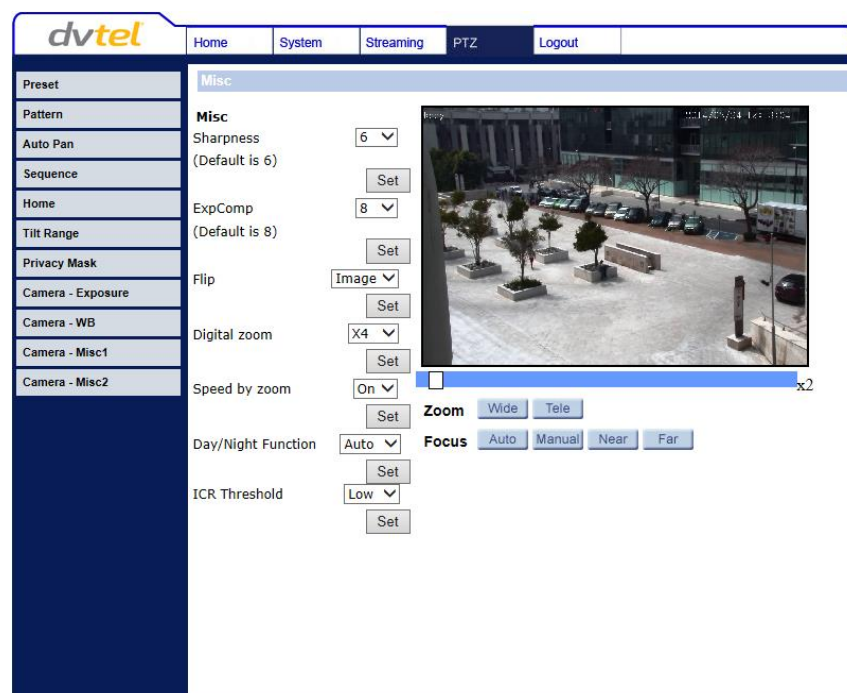


Figure 108: Camera – Misc1 Screen

Sharpness

Increasing the sharpness level can make the image look sharper, especially enhancing the object's edge. From the drop-down list, select from the range between 1 to +15. Click **Set** to confirm the setting.

ExpComp

You can define the value of Exposure Compensation. From the drop-down list, select a value from 1 to 15. Click **Set** to confirm the setting.

Flip

You can track an object continuously when it passes under the camera by selecting *M.E.* (Mechanical) or *Image* (Digital Flip) mode from the drop-down list. Select *Off* if you do want to use this function. Click **Set** to confirm the setting.

- *M.E.* mode – M.E. is a standard mechanical operation. As the dome camera tilts to the maximum angle, it pans 180° and then continues tilting to keep tracking objects.
- *Image* mode – In Digital Image Flip mode, the camera seamlessly tracks objects.

**Note:**

The Flip setting is manually controlled only. If a Preset Position or a point for another function (ex. Sequence) is set to a position that can only be reached by Flip motion, it cannot be reached when the Flip function is *Off*.

**Note:**

To tilt the camera within a specific range, such as -10° to +100° or -10° to +190°, set the tilt angle range on the **Tilt Range** setting page. If not specified, the default setting is 90°.

**Note:**

The Privacy Mask function is automatically disabled when the Image Flip function is enabled.

Digital Zoom

The digital zoom enables 12 zooming levels (ranging from *Off* to *X12*). Select the zoom level from the drop-down list. Click **Set** to save the setting.

Speed by Zoom

Enable this function to automatically adjust by internal algorithm the pan/tilt speed when zooming. From the drop-down list, select *On* or *Off*. Click **Set** to save the setting.

Day/Night Function

The camera uses an IR cut filter to capture a clear image at night time or in low light conditions. From the drop-down list, select *Day* to enable, *Night* to disable, or *Auto*. In the *Auto* mode, the internal circuit automatically chooses when to remove the IR cut filter according to image brightness level. Click **Set** to confirm the setting.

ICR Threshold

The ICR Threshold setting switches the sensitivity of the IR cut filter. Select one of the following settings from the drop-down list:

- *Low*
- *Mid*
- *High*

Click **Set** to confirm the setting.

Zoom

Select *Wide* or *Tele*. Then drag the cursor on the Zoom bar to set the zoom level, which is displayed in the window (x1..x30).

Focus

Select one of the following settings: *Auto*, *Manual*, *Near*, or *Far*.

7.5.11 Camera – Misc2 (Miscellaneous Settings Menu 2)

7.5.11.1 Camera – Misc2 screen on all units except the CP-4221-301

On the **Camera-Misc2** page, you can set the following camera parameters:

- WDR
- Auto Calibration
- Noise Reduction
- OSD
- Set Pan Zero
- TV System

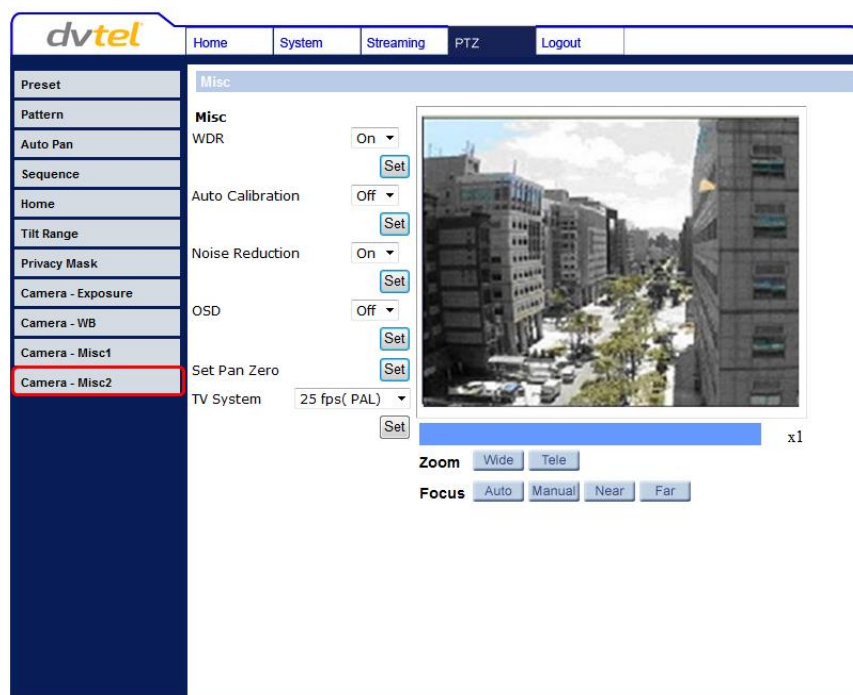


Figure 109: Camera – Misc2 Screen (all units except CP-4221-301)

WDR

The Wide Dynamic Range (WDR) function resolves high contrast or changing light issues in order to enhance the video display. From the drop-down list, select *On* or *Off*. Click **Set** to confirm the setting.

Auto Calibration

Auto Calibration automatically calibrates the camera when a deviation of dome pivot is detected. The camera constantly aligns itself against vertical and horizontal checkpoints to maintain accurate operation. From the drop-down list, select *On* or *Off*. Click **Set** to save the setting.

Noise Reduction

The Noise Reduction function analyzes pixel by pixel and frame by frame to eliminate environmental noise and deliver optimized image quality, especially in low-light conditions. From the drop-down list, select *On* or *Off*. Click **Set** to confirm the setting.

OSD

Enable the OSD (On-Screen Display) function to display the camera tilt, angle, and zoom ratio settings in the Live View pane. From the drop-down list, select *On* or *Off*. Click **Set** to save the setting.

Set Pan Zero

Set the current camera position as the Pan Zero (due north) point for the camera. Click **Set** to save the setting.

TV System

Select the video format that matches your TV system:

- 30 fps (NTSC)
- 25 fps (PAL)

Click **Set** to confirm the setting.

Zoom

Select *Wide* or *Tele*. Then drag the cursor on the Zoom bar to set the zoom level, which is displayed in the window (x1..x18 on CP-3211-xxx or x1..x20 on CP-4221-xxx).

Focus

Select one of the following settings: *Auto*, *Manual*, *Near*, or *Far*.

7.5.11.2 Camera – Misc2 screen on the CP-4221-301

On the **Camera-Misc2** page, you can set the following camera parameters:

- WDR
- Inverse
- Auto Calibration
- 2DNR
- 3DNR
- Stabilizer
- OSD
- Set Pan Zero
- TV System

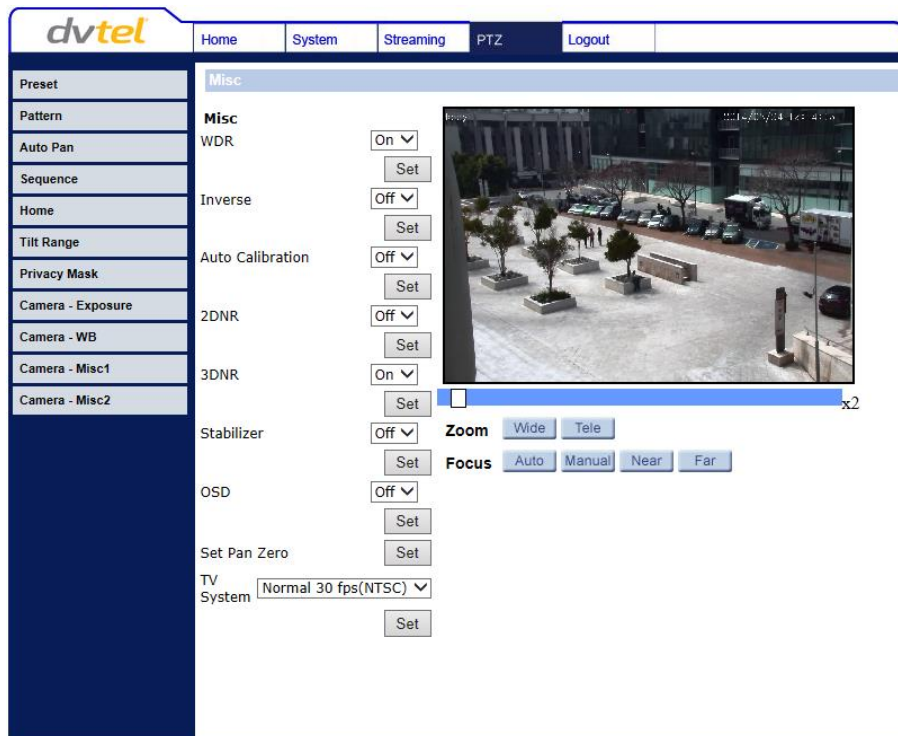


Figure 110: CP-4221-301 Camera – Misc2 Screen

WDR

This setting controls digital Wide Dynamic Range (WDR). The camera also supports multi-exposure WDR (True WDR), which is explained below. True WDR is set from the TV System drop-down list.

Digital WDR improves the image quality of scenes which have very dark areas and light areas in different parts of the scene. This causes the camera to determine average exposure settings corresponding to the average brightness of the scene. This results in the dark areas being too dark and the light areas being oversaturated. The digital WDR implements post-processing enhancement in order to balance the contrast level received from the sensor, thus improving the image quality. Select *On* or *Off*. Click **Set** to confirm the setting.

Inverse

The inverse function flips the image 180°. Select *On* or *Off*. Click **Set** to save the setting.

Auto Calibration

Auto Calibration automatically calibrates the camera when a deviation of dome pivot is detected. The camera constantly aligns itself against vertical and horizontal checkpoints to maintain accurate operation. Select *On* or *Off*. Click **Set** to save the setting.

2DNR

The 2DNR Noise Reduction function analyzes pixel by pixel and frame by frame to eliminate environmental noise and deliver optimized image quality, especially in low-light conditions. Select *On* or *Off*. Click **Set** to confirm the setting.

3DNR

3DNR provides superior noise reduction and is recommended for use in in extra low-light conditions. It is especially useful for reducing blur with moving objects. Select *On* or *Off*. Click **Set** to confirm the setting.

OSD

Enable the OSD (On-Screen Display) function to display the camera tilt, angle, and zoom ratio settings in the Live View pane. Select *On* or *Off*. Click **Set** to save the setting.

Set Pan Zero

Set the current camera position as the Pan Zero (due north) point for the camera. Click **Set** to save the setting.

TV System

The camera supports multi-exposure WDR (True WDR), which is implemented by using a combination of slow- and fast-exposure shutters. The camera uses an algorithm to determine the optimal mix of regions within the scene from the two shutters in order to adjust the wide dynamic range of the scene. True WDR is recommended for most lighting conditions is enabled by default.

From the drop-down list, select the video format that matches your TV system and the type of WDR you prefer:

- *WDR 30 fps (NTSC) – Enables the use of True WDR on an NTSC TV system*
- *WDR 25 fps (PAL) – Enables the use of True WDR on a PAL TV system*
- *Normal 30 fps (NTSC) – Enables the use of digital WDR on an NTSC TV system*
- *Normal 25 fps (PAL) – Enables the use of digital WDR on a PAL TV system*

Click **Set** to confirm the setting.

Zoom

Select *Wide* or *Tele*. Then drag the cursor on the Zoom bar to set the zoom level, which is displayed in the window (x1..x30).

Focus

Select one of the following settings: *Auto*, *Manual*, *Near*, or *Far*.

7.6 Logout

Selecting the **Logout** tab in the navigation bar closes the session. The following message appears:

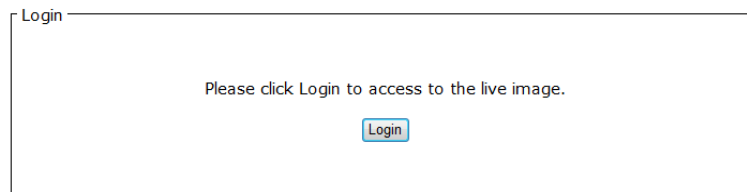


Figure 111: Login Message

Upon clicking **Login**, the **Login** window opens.



Figure 112: Login Window

Appendices

- [Technical Specifications](#)
- [Device Search Software](#)
- [Internet Security Settings](#)
- [Install UPnP Components](#)
- [Deleting Existing DCViewer](#)
- [Deleting Temporary Internet Files](#)
- [Connecting Leads to a Spring Clamp Terminal Block](#)
- [Camera and Mounting Accessories](#)

A.1. Technical Specifications

Camera		CP-3211-18x	CP-4221-20x	CP-4221-301
Image Sensor		1/2.8" Sony Progressive Scan CMOS Sensor		
Shutter Speed		1/1 to 1/10000 seconds		
Sensitivity		0.05 lux in color mode, 0.01 lux in night mode @ F1.6		
Lens				
Focal Length		4.7 ~ 84.6mm	4.7 ~ 94mm	
Focus Mode		Auto/Manual		
Video				
Video Resolution		1080p/SXGA/720p/XGA/SVGA/D1/VGA/CIF		
Video Streaming		Dual Streams, H.264 + MJPEG/H.264 + H.264		
Video Compression		H.264 Standard (Main, Baseline, and High profiles)/MJPEG		
Frame Rate (PAL/NTSC)		1080p (25/30 fps) + D1 (25/30fps)		
Operation		CP-3211-xxx	CP-4221-xxx	CP-4221-301
	Iris Control	Auto/Manual		
	AGC control	Auto/Manual		
	White Balance	Auto/Indoor/Outdoor/ATW/Manual		Auto/Indoor/Outdoor/ATW/Manual/One Push
	Digital Zoom	1~10x variable		1~12x variable
	Optical Zoom	18x	20x	30x
	Wide Dynamic Range	On/Off		On/Off (True WDR)
	Noise Reduction	On/Off (2DNR)		On/Off (3DNR)
	Privacy Masks	16		
	Day/Night (IR Cut Filter)	Auto/Manual		Auto/Day/Night
	Backlight Compensation	On/Off		N/A
Audio	Audio Compression	G.711/G.726 ADPCM/AAC (Latitude only supports G.711)		
	Audio Streaming	Two-way Audio		
Alarms	Digital Alarm Inputs	4		
	Digital Alarm Outputs	2		
	Alarm Reaction	Preset, Sequence, Auto pan, Pattern		

Operation	CP-3211-18x	CP-4221-20x	CP-4221-301
Languages	English, German, French, Italian, Simplified Chinese, Traditional Chinese, Russian, and Korean		
MicroSD Card Recording	microSD/SDHC 32GB support		
PTZ Operation			
Manual Speed	0.5° ~ 90°/second		
Pan Travel	360° endless		
Tilt Travel	-10° ~ 190°		
Presets	256		
Preset Accuracy	0.225°		
Preset Speed	5° ~ 400°/second		
Sequence	8		
Auto Pan	4		
Pattern	4		
Proportional Pan & Tilt	On/Off (pan and tilt speed proportional to zoom ratio)		
Resume after Power Loss	Yes		
Home Function	Preset, Sequence, Auto pan, Pattern		
Auto Flip	Digital/Mechanical/Off		
Motion Detection	On/Off		
Image Rotation	Flip/Mirror/Inverse/Portrait		
Network			
Ethernet	10/100 MB Ethernet (RJ45)		
Network Protocols	IPv4/v6, TCP/IP, UDP, RTP, RTSP, HTTP, HTTPS, ICMP, FTP, SMTP, DHCP, PPPoE, UPnP, IGMP, SNMP, QoS, IEEE 802.1x, ONVIF		
Password Levels	User and Administrator		
Security	User Account and Password Protection		
Internet Browsers	IE 7, 8, and 9		IE 7, 8, 9, and 10

CP-3211-180 and CP-4221-200

Mechanical	
Dimensions	Ø 171.7 x 228.71 mm (Ø 6.76 x 9 inches)
Weight	1.6 kg (3.57 lbs.)
Electrical	
Power Source	PoE+/24VAC ± 10%
Power Consumption	20W
Environmental	
Operating Temperature	0° to 40°C (32° to 104°F)
Regulatory	
Approvals	CE, FCC, RoHS

CP-3211-181/181-HPoE and CP-4221-201/201-HPoE/301-HPoE

Mechanical		
Dimensions	Ø 191.97 x 282.11 mm (Ø 7.55 x 11.1 inches) with sunshield	
Weight	2.3 kg (5.11 lbs.) with sunshield	
Electrical	CP-3211-181 CP-4221-201	CP-3211-181-HPoE CP-4221-201-HPoE CP-4221-301-HPoE
Power Source	PoE+ (> 0°C/32°F), 24VAC ± 10%	Ultra PoE, 24VAC ± 10%
Power Consumption	65W	60W
Environmental	CP-3211-181 CP-4221-201	CP-3211-181-HPoE CP-4221-201-HPoE CP-4221-301-HPoE
Operating Temperature	-45° to 50°C (-49° to 122°F)	-40° to 50°C (-40° to 122°F)
Regulatory		
Approvals	CE, FCC, RoHS, IP66	

A.2. Device Search Software

A.2.1 Initial Camera Configuration

To perform the initial camera configuration:

1. Unpack the camera. Rotate and remove the protective cover.
2. Remove the PE cloth sheet and lens cap. Attach the dome cover to the body.
3. Insert the RJ45 plug at the end of the network cable into the network port of the camera.
4. Do one of the following:
 - o Copy and run the `devicesearch.exe` from the included CD.



Note:

Device Search is an alternative software to DNA. Either of these programs may be used. Both are supplied on the included CD.

- o From the Latitude Sidebar, run the Unified Configurator by selecting *Applications > Device Configuration Tool* and then on the Unified Configurator screen, click **DVTEL HD Series**.
5. In the Device Search application, click **Device Search** and do the following:
 - a. In the search results, click on the camera to select it.
 - b. Right-click and select from the shortcut menu **Network Setup**.



Figure 113: Device Search Application

- c. In the dialog that appears, select **Static IP**.
 - d. Enter the *IP Address*, *Gateway* and *Netmask* (network mask) as needed and click **OK**.
6. Disconnect the Ethernet cable. The camera is ready for deployment in a site installation (mounting).



Note:

The camera can be connected to a PC for bench installation via an Ethernet cross-cable.



Note:

The camera default IP Address and the subnet mask IP Address are automatically supplied by the DHCP server.

**Tip:**

A camera setup adapter, such as Veracity Pinpoint, can be used to connect a laptop directly to the camera when using PoE.

A.2.2 Searching and Accessing the Camera with Device Search

Device Search provides a central location for listing all the DVTEL CM, CF and CP camera models accessible over the network. Once listed, each camera can be right-clicked to access and change the network settings.

Once the network settings are changed, a new search will relist the units. The units may then be configured via the web interface.

If DVTEL Latitude is being used, configure the unit with a static IP address rather than with DHCP. This ensures that the IP address will not automatically change in the future and interfere with configurations and communication.

The camera must be made accessible for the network's addressing. For initial access to the camera, do either of the following and search and configure the camera's network settings via Device Search:

- In Latitude, the Device Configuration Tool (Unified Configurator) can be accessed from the Applications menu, if AdminCenter is available. Click the **DVTEL HD Series** button.
- Run `devicesearch.exe`, which can be found in the Device Search folder in the supplied CD.

**Note:**

Device Search is an alternative software to DNA. Either of these programs may be used. They are supplied in the included CD.

A.2.3 Configuring Communication Settings of a Quasar Camera

To configure communication settings:

1. Connect the camera to the network on the same VLAN/LAN as the workstation.
2. If the network supports the default, open Device Search by doing one of the following:
 - a. Access the Device Configuration Tool (Unified Configurator) from the Applications menu, if the AdminCenter in Latitude is available. Click the **DVTEL HD Series** button.
 - b. Run `devicesearch.exe` which can be found in the Device Search folder in the supplied CD.

**Note:**

Device Search is an alternative software to DNA. Either of these programs may be used. They are supplied on the included CD.

3. In the Device Search application, click the **Device Search** button.

4. If the Windows Firewall is enabled, a security alert window will pop up. Do the following:
 - a. Click **Unblock** to continue. Latitude users should consult the Latitude Installation Instructions on disabling the Windows Firewall.



Figure 114: Windows Security Alert

- b. Click **Device Search** again. All the discovered IP devices will be listed in the page, as shown in the figure below. The camera's default IP address is automatically set by the DHCP server.
5. Right-click on the camera whose network property is to be changed. From the menu that opens, select **Network Setup**. The **Network Setup** dialog is displayed.



Tip:

Record the camera's MAC address for future reference.

6. To access **Device Search**, do one of the following:
 - a. For DHCP (not supported by Latitude):
 - i) Select **DHCP**. Do not use for Latitude.
 - ii) Click **Apply**. When prompted with instructions to search again after one minute, click **OK**.
 - iii) After one minute, click **Device Search**.
 - b. For Static IP (recommended for Latitude users):
 - i) Select **Static IP** (preferable for security and Latitude users). In the IP Address, Gateway, and Netmask, enter the respective LAN/VLAN (optional DNS) values.
 - ii) Click **Apply**. When prompted with instructions to search again after one minute, click **OK**.
 - iii) After one minute, click **Device Search**. The communication settings should now be changed and ready to install the camera on the network. Access it either via the browser-based viewer or Latitude NVMS.

7. Right-click and select **Browse** to directly access the camera via a web browser. The default web browser opens and requests access to the camera IP address.

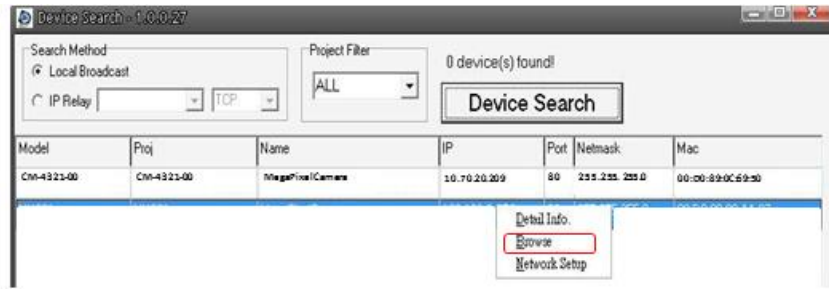


Figure 115: Device Search Application – Select Browse

8. When the web browser contacts the camera IP, do the following:
 - a. Log in using the default user name *Admin* and password *1234*.



Note:

ID and password are case-sensitive.



Note:

It is strongly advised that administrator's password be altered for security reasons.

- b. If the Information Bar (just below the URL bar) prompts for permission to install the ActiveX Control for displaying video in the browser (see the figure below), right-click on the Information Bar. Select **Install ActiveX Control** to allow the installation.

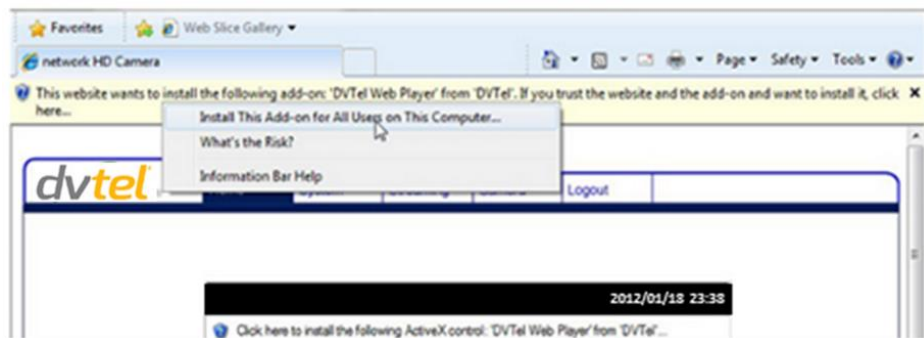


Figure 116: Device Search Application – Select Install ActiveX Control

9. If a security warning window prompt appears, click **Install**.



Figure 117: Security Warning Window

- a. If the wizard appears for installing the component application DCViewer, follow the instructions to complete the installation.



Note:

If the password is changed and DVTEL Latitude AdminCenter Discovery feature is in use, deselect all other proprietary types. Select DVTEL HD Series so that the new password can be configured in the Discovery tab settings.

Additionally, you can change the camera's network property (either DHCP or Static IP) directly in the device finding list. Refer to the following section for changing the camera's network property.

A.3. Internet Security Settings

If ActiveX control installation is blocked, either set Internet security level to default or change ActiveX controls and plug-in settings.

To set the default Internet security level:

1. Start Internet Explorer.
2. From the Command Bar toolbar, select **Tools** and select **Internet Options** from the menu that appears.

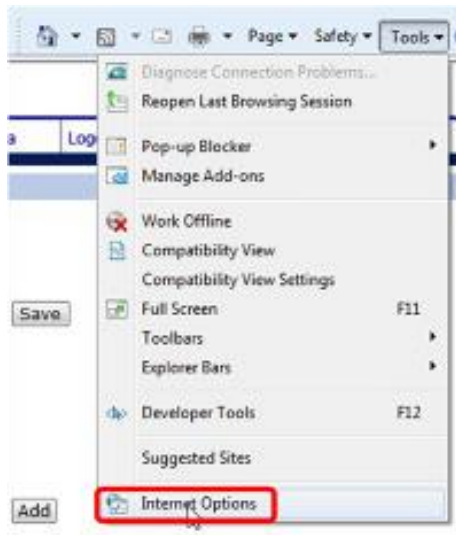


Figure 118: Command Bar Toolbar – Select Internet Options


3. In the **Internet Options** window that appears, select the **Security** tab.
4. Select  **Internet** in *Select a zone to view or change security settings*.
5. If the settings are not defined as default, select **Default Level** and move the *Allowed* levels for this zone slider to *Medium-high* and select **OK**.



Figure 119: Internet Options Screen

6. Close all browsers and reopen so that the settings take effect.

ActiveX Controls and Plug-in Settings

To create a custom level:

1. Start Internet Explorer (IE).
2. From the Command Bar toolbar, select **Tools** and **Internet Options** from the menu that opens.

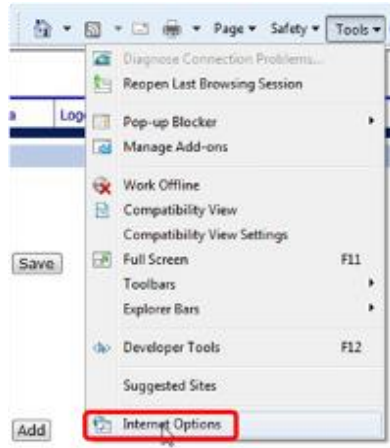



Figure 120: Command Bar Toolbar – Internet Options

3. In the **Internet Options** window that appears, select the **Security** tab.
4. If not already selected, select  **Internet**, then select *Custom Level*.
5. In the dialog that appears, under *ActiveX controls and plug-ins* set all the following options to *Enable* or *Prompt*:

- Automatic prompting for ActiveX controls
- Binary and script behaviors
- Download signed ActiveX controls
- Download using ActiveX controls
- Initialize and script ActiveX not marked as safe
- Run ActiveX controls and plug-ins
- Script ActiveX controls marked safe for scripting

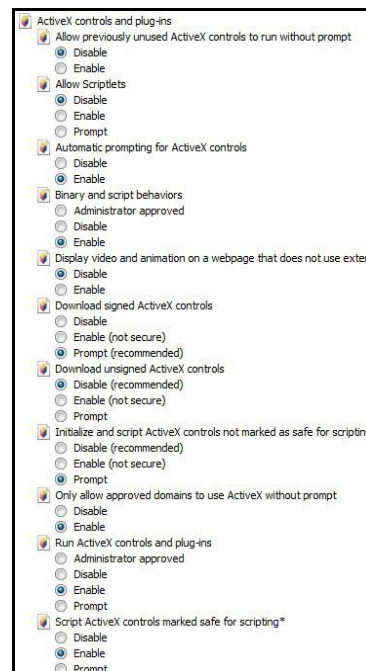
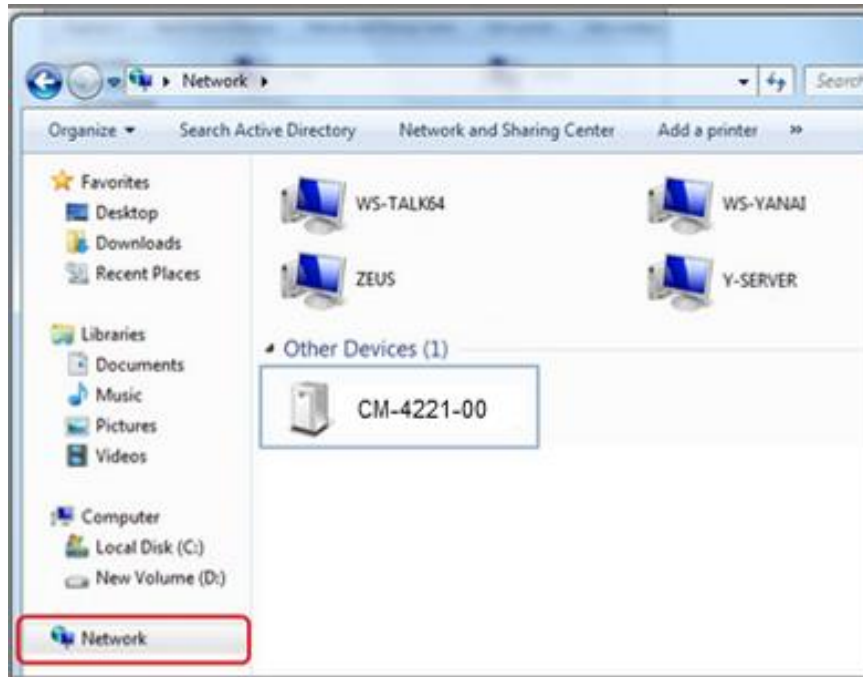


Figure 121: Schedule Screen


6. Click **OK** to accept the settings and close the **Security** screen.
7. Click **OK** to close the **Internet Options** screen.
8. Close the browser window and restart IE again to access the camera.

A.4. Install UPnP Components

Follow the instructions below to enable UPnP so that the camera can be discovered and displayed in Network locations under *Other Devices*:

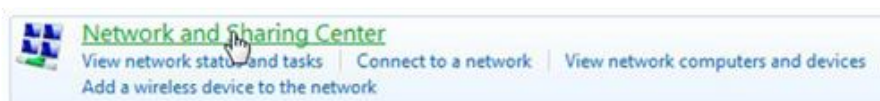


To enable UPnP discovery in Windows 7 and Windows 8:

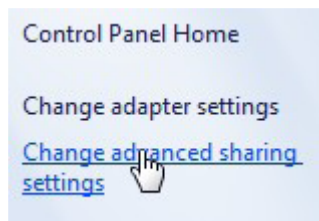
1. Click  (Start) and select *Control Panel*.
2. Click on *Network and Internet*.



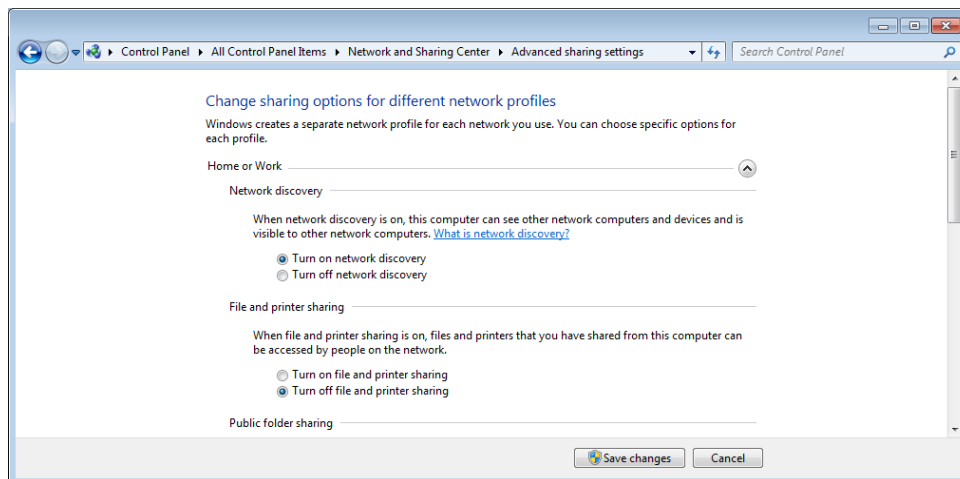
3. Click on *Network and Sharing Center*.



4. Click *Change advanced sharing settings*.



- Expand the Home or Work node, select *Turn on network discovery*.




- Click **Save Changes**.

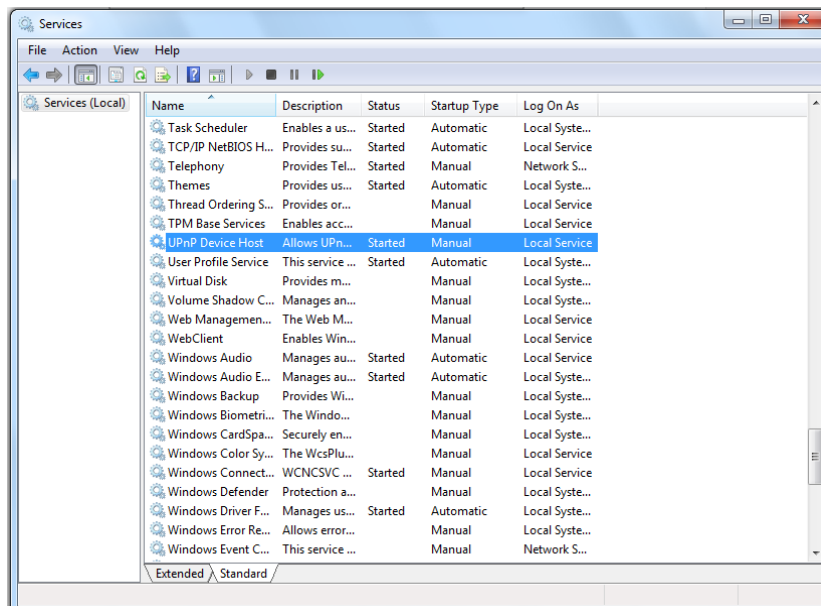


Note:

Network discovery requires that the DNS Client, Function Discovery Resource Publication, SSDP Discovery, and UPnP Device Host services are started, that network discovery is allowed to communicate through Windows Firewall, and that other firewalls are not interfering with network discovery.

To check that the UPnP Device Host services are running:

- Click  (Start) and type in the Search programs and files field **services.msc** and then select **services.msc** from the displayed Programs. The **Services** dialog box appears.




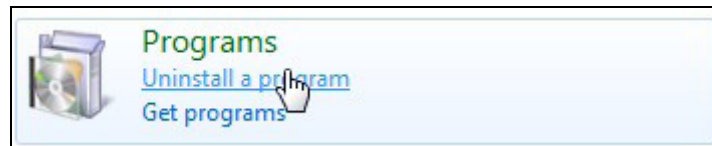
- In the **Services** dialog box, scroll down the list to *UPnP Device Host* and verify that it shows the status *Started*. If *Started* is not displayed, right-click and select **Start** from the shortcut menu.

A.5. Deleting the Existing DCViewer

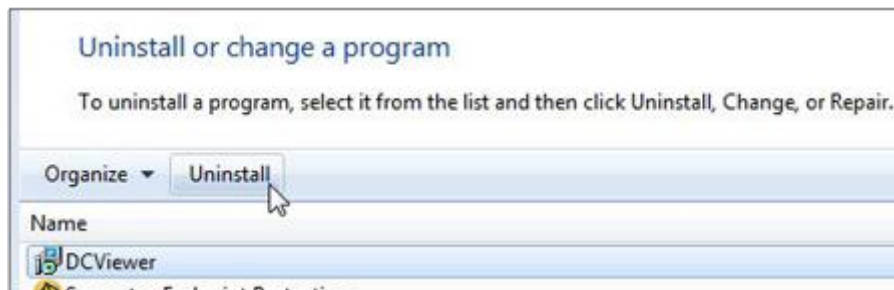
If you have previously installed the DCViewer in the PC, you should first delete the existing DCViewer from the PC before accessing the camera.

To delete a legacy DCViewer:

1. Click  **Start** and select Control Panel.
2. In the Control Panel, click **Uninstall a program**.



3. From the installed program list, select **DCViewer** and then, on the banner bar, click **Uninstall**.



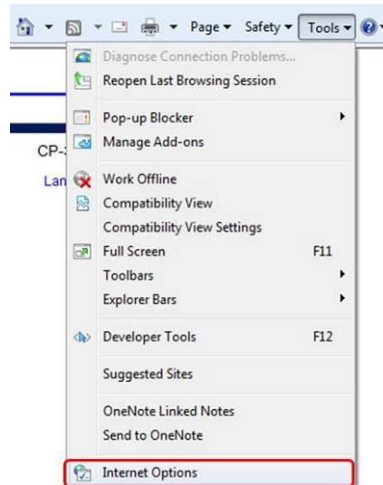
4. If prompted to confirm the Uninstall, click **Yes**.

A.6. Deleting Temporary Internet Files

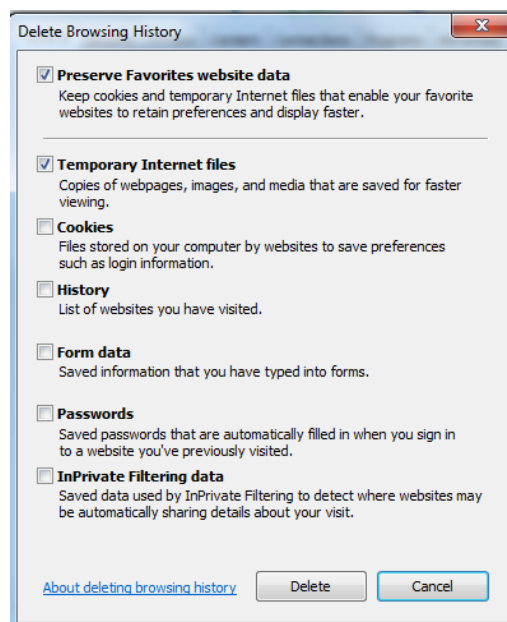
To improve browser performance, it is recommended to clean up all of the temporary Internet files.

To delete temporary Internet files:

1. In Internet Explorer (IE), from the Command Bar toolbar, click **Tools** and select *Internet Options* from the menu that appears.



2. In the **General** tab in the *Internet Options* dialog box, click **Delete**.
3. In the **Delete Browser History** dialog box that appears, select *Temporary Internet files*. Deselect *Cookies and History* to keep this data. Then click **Delete**.



A.7. Connecting Leads to a Spring Clamp Terminal Block

The unit is delivered with two terminal block connectors. The connectors enable you to connect wires for either the relay output or alarm input and then connect them to the unit.



Figure 122: Spring Clamp Terminal Block

To connect a wire to the spring clamp terminal block:

1. Strip the insulation from the end of each wire that is to be connected to the terminal block. Approximately 1 cm (2.54") of wire should be exposed.
2. With a small screwdriver, press in and hold the orange spring clamp button next to the female outlet where the wire will be inserted.
3. Insert the stripped end of the wire into the female outlet.
4. Release the orange spring clamp button.

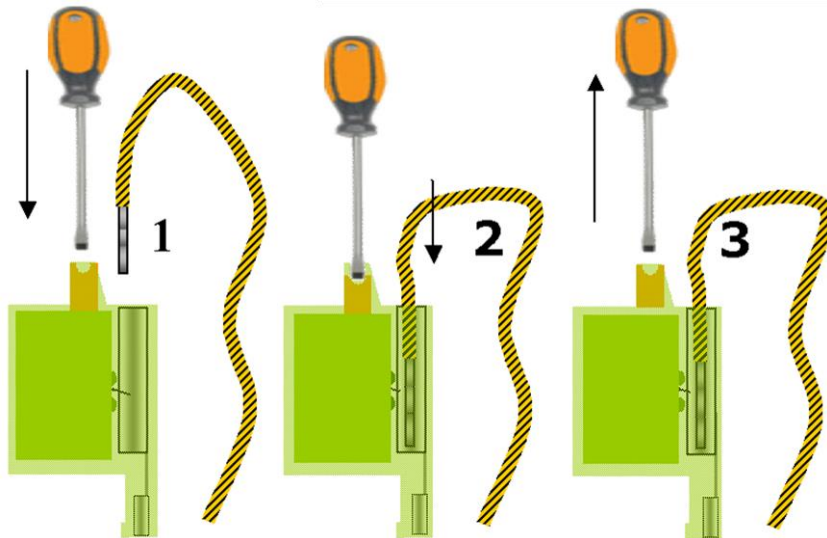


Figure 123: Connecting a Wire to a Terminal Block

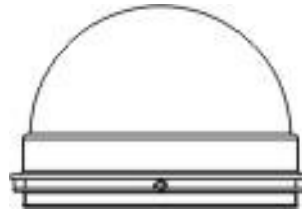
A.8. Camera and Mounting Accessories

The following mounting accessories are available from DVTEL for installation of your Quasar CP-3211 or CP-4221 Series PTZ Dome IP Camera. For more information on available options, contact your DVTEL sales representative or visit www.DVTEL.com to request details on where to get the accessories you need.

Camera Accessories

Part Number	Item
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CP-21CLEAR-1 **Dome Cover**
Transparent Cover (Standard) or Vandal Proof Cover (Optional)



CX-PRWR-241

Power Supply

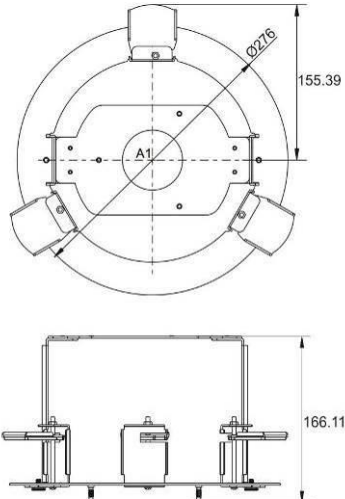

115VAC input, 50/60 Hz, 0.9 amps; one individually fused 24VAC input and one individually fused 24VAC output (output fuse 3 amps rating); 3 amp, 100VA supply current; surge protection.

Enclosure size: 203 x 152 x 114mm (8 x 6 x 4.5 in.)

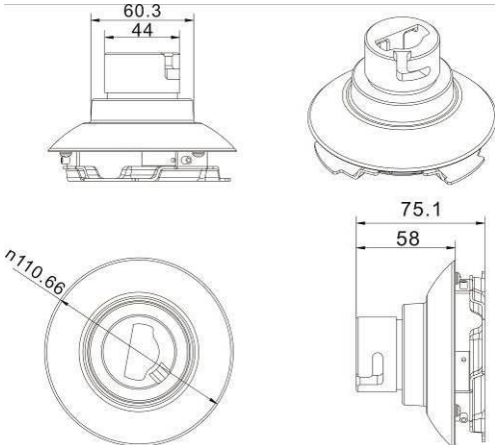



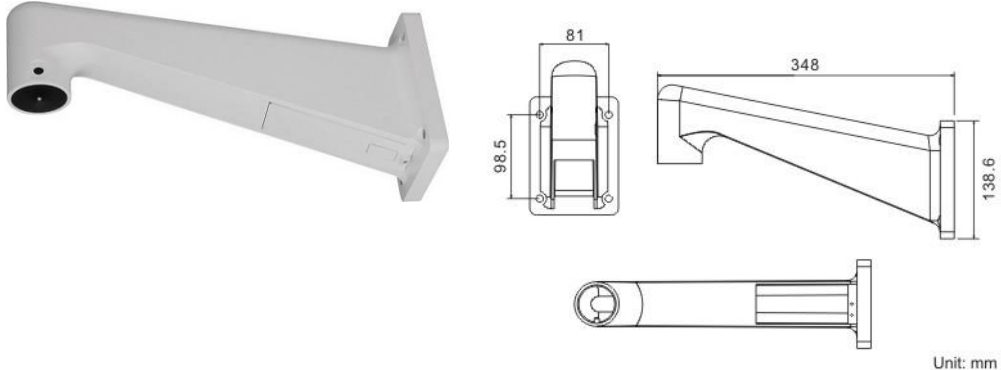
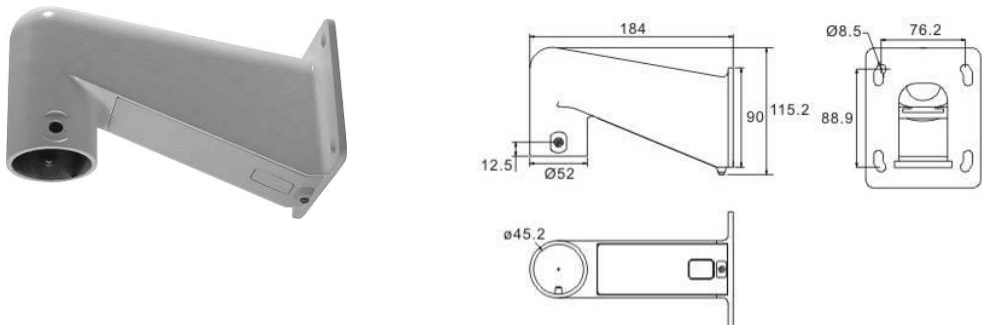
Mounting Accessories

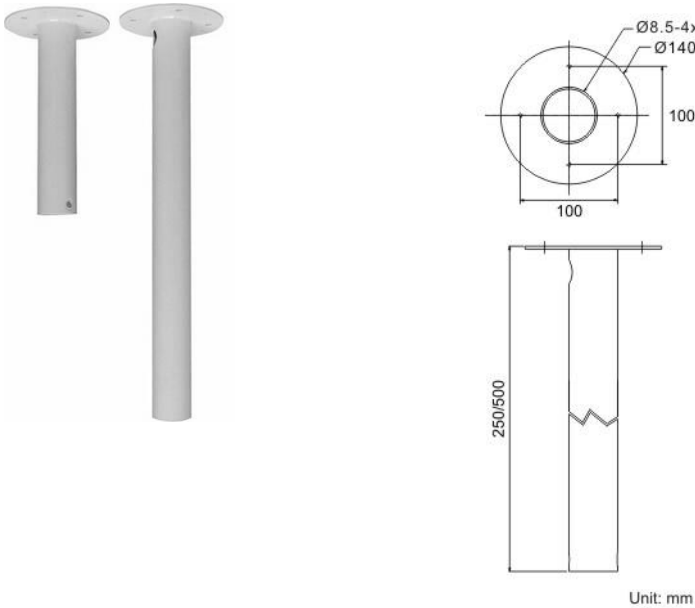
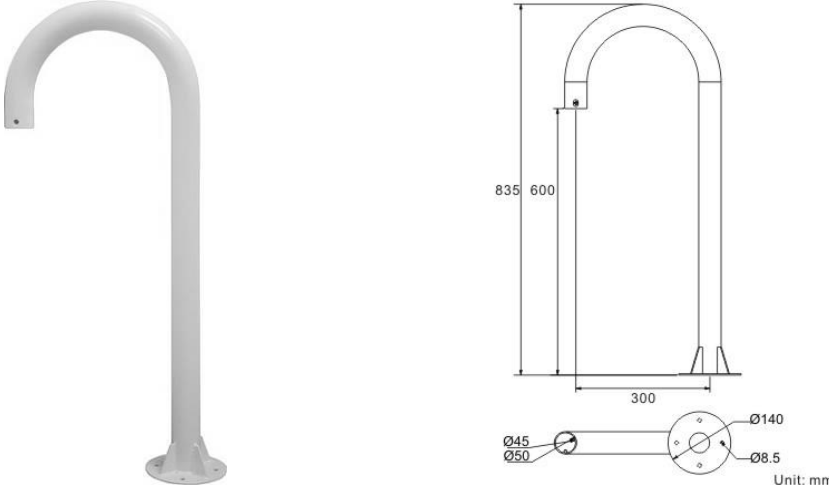
Part Number	Item
CP-HD-RCSD-0	<p>Recessed Mount</p> <p>For in-ceiling installation.</p> <p>Height x Depth: 166mm/6.5 in. x 276mm/10.9 in.</p> <p>Weight: 1.1 kg (2.4 lbs.)</p> <p>Supplied with M3x6 Screw x2, Ceiling Sticker x1, Trim Ring x1.</p>



CP-HD-CAPX-0	<p>Indoor Pendant Mounting Kit</p> <p>Height (with Hard Ceiling Mount): 75.1mm (3.0 in.)</p> <p>Height (without Hard Ceiling Mount): 58mm (2.3 in.)</p> <p>Width: 110.66mm (4.4 in.)</p> <p>Weight: 260g (0.56 lbs.)</p>
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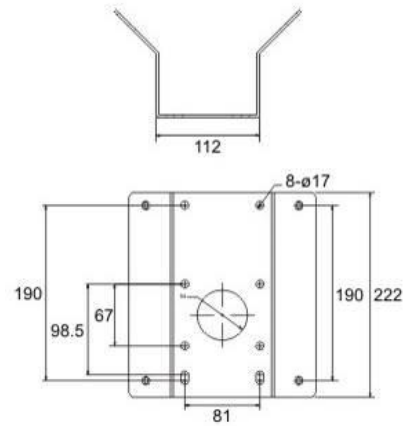


Part Number	Item
CX-ARMX-1	<p>Standard Wall Mount</p> <p>White</p> <p>Dimensions: 348 × 104 × 138.6mm (13.7 × 4.1 × 5.5 in.)</p> <p>Diameter: 45 mm (1.8 in.)</p> <p>Weight: 1.5 kg (3.3 lbs.)</p> <p>Supplied with M8x12 screw x1, spring washer-8 x1, pendant tube washer x1, rubber washer-8 x1 and sponge x2.</p> 
CX-ARMX-0	<p>Compact Wall Mount</p> <p>Dimensions: 184 × 104 × 115.2mm (7.24 × 4.09 × 4.54 in.)</p> <p>Weight: 0.6 kg (1.2 lbs.)</p> <p>Supplied with rubber washer-8 x1, pendant tube washer x1, spring washer-8 x1 and M8x12 screw x1.</p> 

Part Number	Item
CX-PIPE-0 (25cm)	Straight Tube Material: Constructed from iron Height: 250/500mm (9.8/19.7 in.) Diameter: 50mm (2 in.) Weight: 1 kg (2.2 lbs.)/1.8 kg (4 lbs.) Supplied with M8x12 screw x1, spring washer-8 x1, pendent tube washer x1, rubber washer-8 x1 and waterproof rubber x1.
CX-PIPE-1 (50cm)	
	
CX-SWAN-0	Swan Tube For mounting with Swan Tube Color: White Material: Constructed from iron Dimensions: 835 x 300mm (32.9 x 11.8 in.) Diameter: 45mm (1.8 in.) Weight: 3.8 kg (8.4 lbs.) Supplied with pendent tube washer x1, rubber washer-8 x1, waterproof rubber x1, spring washer-8 x1 and M8x12 screw x1
	

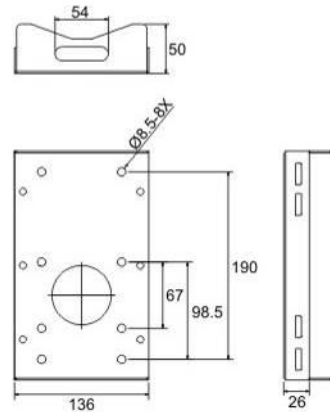
Part Number	Item
-------------	------

CX-CRNR-0 **Corner Standard Mounting Plate**
 Dimensions: 222 × 204 × 117mm/8.7 × 8 × 4.6 in. (L x W x D)
 Weight: 2 kg (4.4 lbs.)
 Supplied with washer-8 x4, spring washer-8 x4, M8x16 screw x4, and M8 nut x4.

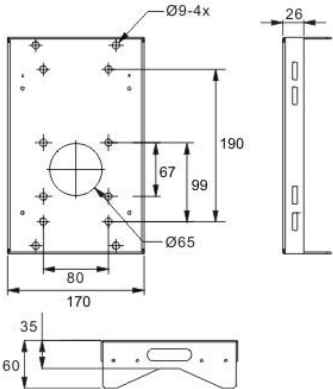

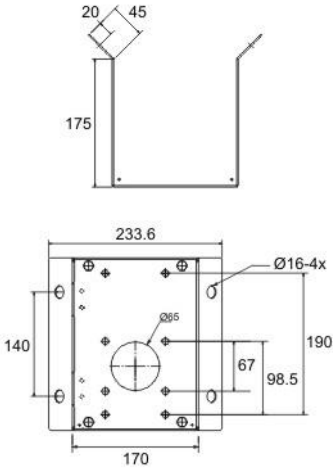



Unit: mm

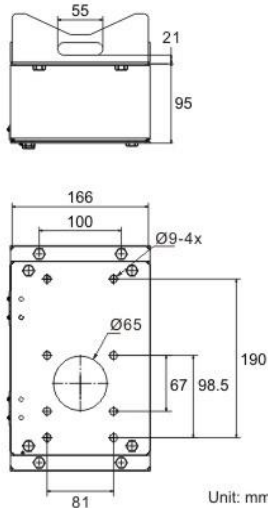

CX-POLE-0 **Pole Thin Direct Mounting**
 Dimensions: 232 × 136 × 60mm/9.1 × 5.4 × 2.4 in. (L x W x D)
 Diameter: 112 ~ 130 mm (4.4 ~ 5 inches)
 Weight: 0.7 kg (1.6 lbs.)
 Supplied with stainless steel straps x4, M8x16 screw x4, washer x4 and spring washer-8 x4.



Unit: mm

Part Number	Item
CX-WLBX-0	<p>Pole Wide Direct Mounting</p> <p>Dimensions: 270 × 170 × 60mm/10.6 × 6.7 × 2.4 in. (L x W x D)</p> <p>Diameter: 112 ~ 140mm (4.4 ~ 5.5 in.)</p> <p>Weight: 1 kg (2.2 lbs.)</p> <p>Supplied with M8x16 screw x4, washer x4, stainless steel straps x4 and spring washer-8 x4.</p>
	<div><p>Unit: mm</p></div>
CX-CNBX-0	<p>Corner Wide Box Mounting</p> <p>Dimensions: 232 × 234 × 210mm/9.1 × 9.2 × 8.3 in. (L x W x D)</p> <p>Weight: 2.7 kg (6 lbs.)</p> <p>Supplied with M8x16 screw x4, washer-8 x4, and spring washer-8 x4</p>
	<div><p>Unit: mm</p></div>

Part Number	Item
CX-PLBX-0	<p>Pole Wide Box Mounting</p> <p>Dimensions: 270 ×166 ×155mm/10.6 × 6.5 × 6.1 in. (L x W x D)</p> <p>Weight: 3.2 kg (7.1 lbs.)</p> <p>Supplied with M8x16 screw x4, washer-8 x4, spring washer-8 x4 and stainless steel straps x4.</p>



Unit: mm

Contacting DVTEL

DVTEL Inc. is a multiple award-winning market leader in the development and delivery of intelligent security solutions over IP networks. DVTEL provides unified solutions that leverage existing network infrastructure, while providing unmatched levels of flexibility, scalability and cost-effectiveness - all backed by superior customer support.

To contact us, write us at info@DVTEL.com, or contact your local office.

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To request the latest versions of firmware and software or to download other product-related documents, visit <http://www.DVTEL.com/support>. If you have obtained a login, go to our [support gateway](#). For assistance, email us at support@DVTEL.com or phone 1-888-DVTEL77.